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Self-Compassion and Social Anxiety in Adolescents:

A systematic review of the association between shame and social anxiety and an empirical study of the relationship between self-compassion and social anxiety in adolescents

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Doctorate in Clinical Psychology

The University of Edinburgh

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List of Abbreviations

| | | |
|--------|---|---|
| ADHD | - | Attention Deficit Hyperactivity Disorder |
| BCa | - | Bias Corrected and accelerated |
| BPD | - | Borderline Personality Disorder |
| CAQ | - | Cognitive Avoidance Questionnaire |
| CBT | - | Cognitive Behavioural Therapy |
| CFT | - | Compassion Focused Therapy |
| CRD | - | York's Centre for Reviews and Dissemination |
| DSM-V | - | Diagnostic and Statistical Manual of Mental Disorders (5 th Edition) |
| FEP | - | First Episode Psychosis |
| FNE | - | Fear of Negative Evaluation |
| GAD | - | Generalised Anxiety Disorder |
| HSA | - | High Social Anxiety |
| LSA | - | Low Social Anxiety |
| MDD | - | Major Depressive Disorder |
| OCD | - | Obsessive Compulsive Disorder |
| OCRD | - | Obsessive Compulsive Related Disorders |
| PRISMA | - | Preferred Reporting Items for Systematic Reviews and Meta-Analyses |
| PrSC | - | Private Self-Consciousness |
| PuSC | - | Public Self-Consciousness |
| RCT | - | Randomised Control Trial |
| SA | - | Social Anxiety |
| SAD | - | Social Anxiety Disorder |
| SCID | - | Structured Clinical Interview for DSM |
| SCS | - | Self-Compassion Scale |
| SFA | - | Self-Focused Attention |
| SIGN | - | Scottish Intercollegiate Guidelines Network |
| SPIN | - | Social Phobia Inventory |
| STROBE | - | Strengthening the Reporting of Observational Studies in Epidemiology |
| VIF | - | Variance Inflation Factor |

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Full Thesis Abstract

Background: Compassion Focused Therapy aims to reduce shame through the development of compassion towards the self (Gilbert & Proctor, 2006). In a recent meta-analysis, MacBeth & Gumley (2012), identified self-compassion as a good predictor of mental wellbeing in adult populations. In addition, Werner et al (2012) provided preliminary evidence that difficulties with self-compassion may contribute to the development and maintenance of social anxiety. Despite wide recognition that social anxiety arises in adolescence and can be a pre-cursor to the development of other psychological disorders, the relationship between self-compassion and social anxiety is yet to be explored in younger populations.

Objective: The following portfolio aims to add to the current literature by firstly, completing a systematic review to examine whether the association between shame and social anxiety is supported by empirical research and secondly, examining the relationship between self-compassion and social anxiety in an adolescent community sample. The role of recognised cognitive factors of social anxiety i.e. fear of negative evaluation, self-focused attention and cognitive avoidance in mediating the relationship between self-compassion and social anxiety and the role of possible confounders i.e. depression and generalised anxiety were also examined.

Method: A systematic review of studies that assess the association between shame and social anxiety symptomology was undertaken. The empirical study comprised a cross-sectional design in which 414 community based adolescents, aged 14-18, were recruited from 4 local schools to complete 7 validated psychometric questionnaires: Self-compassion Scale (Neff, 2003), The Social Phobia Inventory (Connor et al, 2000), the Social Anxiety Scale for Adolescents (LaGreca, 1998), The Cognitive Avoidance Questionnaire (Gosselin et al, 2002), the Self Consciousness Scales (Fenigstein et al, 1975), Screen for Child Anxiety Related Emotional Disorders (Birmaher et al, 1995) and the Short Mood and Feeling Questionnaire (Angold et al, 1995).

Systematic Review Results: Twenty one studies met the inclusion criteria of the systematic review and demonstrated a positive association between shame and social anxiety

symptomology. Methodological factors, depression and gender were found to impact on the power of this association.

Empirical Project Results: Self-compassion was found to be inversely related to social anxiety, $r = -.551$, $p < .0001$, 95% CI $[-.62, .48]$, with both fear of negative evaluation and cognitive avoidance, but not self-focused attention, partially mediating this relationship. Self-compassion was found to be a unique predictor of social anxiety, explaining additional variance when depression and generalised anxiety were controlled for.

Conclusions: The above studies extend existing literature on the relationship between shame, social anxiety and self-compassion. In particular the use of an adolescent sample provides evidence of the usability and applicability of self-compassion concepts with younger populations. Similarly, the above studies expand our understanding of the concepts underlying social anxiety, specifically in adolescents, for whom social anxiety is extremely prevalent. It is hoped that the above research may highlight associations in need of further investigation, in particular with clinical samples, and inform the development of compassion focused adaptations or interventions for this population.

Journal Article 1

A systematic review of the association between shame and social anxiety symptomology

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Written in accordance with the instructions for the *Journal of Anxiety Disorders* (see Appendix A for author guidelines)

Abstract

Purpose: Although conceptual links between shame and social anxiety are apparent, a review has not been completed to examine whether this association is supported by empirical research findings.

Method: A systematic literature search was conducted using multiple electronic databases to identify evidence relating to the association between shame and social anxiety symptomology at clinical and sub-clinical levels. Included studies were methodologically appraised using quality criteria developed to address the current review question.

Results: Twenty one studies met inclusion criteria and provided support for the presence of a positive association between shame and social anxiety, independently of depression. One study reported mixed results.

Conclusion: The relationship between shame and social anxiety was consistently found across heterogeneous studies. It is proposed that shame should be considered as part of a wider conceptualisation in the understanding and treatment of social anxiety. Future research clarifying the direction and underlying processes of this relationship is warranted.

Key words: shame; social anxiety; social phobia; systematic review

Highlights:

- Twenty one studies found a positive association between shame and social anxiety
- This association exists independently of depression
- Shame should be considered in wider conceptualisations of social anxiety
- Future research in clarifying the direction and underlying processes of this relationship is warranted.

1.1 Introduction

Shame is recognised as a "powerful" and "painful" self-conscious emotion, arising from a global negative belief about one's identity (Tangney, 1991; Tangney & Dearing, 2002). It is considered a socially orientated emotion in that it arises in response to concern with the real or imagined acceptability of the self in other's eyes i.e. affect associated with having a personal attribute, characteristic or behaviour that others find unattractive or undesirable (Gilbert, 1998). It is associated with feelings of being worthless, inferior and disgraced (deHooge, Zeelenberg & Breugelmans, 2010), a tendency towards self-criticism and altered attentional and cognitive processes (Lewis, 1971; Gilbert & Irons, 2009). Due to ongoing fears of being exposed, of being flawed, and fears of rejection, individuals strive to hide or disappear or alternatively work towards creating a positive image in the mind of others, with shame proposed to result in increased defensive and avoidant behaviours (Lewis, 1971; Tangney & Dearing, 2002). In addition it has been theorised that shame is related to our social rank, the degree to which one feels looked down on and inferior to others, which functions by alerting individuals to possible social damage so as they can restore compromised social standing (Gilbert & McGuire, 1998).

Gilbert (1998) proposed that there may be varying types of shame: External shame relates to the way attention and cognitive processes are attuned to what is going on in the mind of others about the self, with evaluations focused on those aspects of the self we believe others would reject or criticise if they became public. Internal shame refers to the negative view of the self as seen through our own eyes, our own cognitions about our own attributes, personality characteristics and behaviours (Gilbert, 1998). It is suggested that when shame episodes arise that they typically involve both external and internal elements and that these are likely to impact on one another (Goss, Gilbert & Allan, 1994).

1.1.1. Shame and psychopathology

Shame has been linked to the formation and maintenance of psychopathology (Lewis, 1971). Associations have been found between shame and depression, eating problems, anxiety and PTSD in adults (Tangney, Miller, Flicker & Barlow, 1996; Tangney, Mashek & Steuwig, 2007), as well as internalising and externalising problems in children (Mills, 2005; Muris & Meesters, 2014). Additionally, a number of reviews have collated studies to offer increased insight. Mills (2005) reviewed the developmental theories of shame and concluded that shame may be a vulnerability factor for the development of psychological and immune

related problems. Kim, Thibodeau & Jorgensen (2011) completed a meta-analysis of the relationships between shame, guilt and depression, in which it was found that shame had significantly stronger associations, than guilt, with depression ($r=.43$). The finding that external shame was associated with larger effects than internal shame also highlighted the importance of looking into the subtypes of self-conscious emotions. Finally, Weingarden & Renshaw (2015) reviewed the role of shame in the newly developed category of obsessive compulsive related disorders (OCD). Shame was found to be closely related to OCD but findings were difficult to interpret due to design and methodological limitations within reviewed studies (Weingarden & Renshaw, 2015).

1.1.2 Shame and social anxiety

One relationship which is yet to be empirically reviewed is that between shame and social anxiety. It is well evidenced that social anxiety symptomology are common (Connor, Davidson, Churchill et al, 2000; Wittchen, Stein & Kessler, 1999) and that Social Anxiety Disorder (SAD), defined as a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to the possible scrutiny of others (*see DSM-V for full criteria*), is frequently diagnosed (Kessler, Chiu, Demler, Merikangas & Walters, 2005). Studies have also found that at least 50% of those with SAD hold at least one additional lifetime mental illness (Chartier, Walker & Stein, 2003; Sanderson, Wetzler, Beck & Betz, 1994) many of which have been linked to shame as outlined above.

In addition, there are clear conceptual similarities, underlying processes and links between the theoretical models of shame (Buss, 1980; Lewis, 1971; Gilbert, 2000) and social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997). Firstly, both are linked with a desire to be seen favourably but beliefs that one is incapable of being so. Therefore it appears likely that individuals who believe that their characteristics and behaviours are unacceptable or those who place a great deal of value on others' perceptions, as common for those with social anxiety, are at greater risk of experiencing shame. Secondly, internally directed attention to one's personal defects in shame is similar and possibly related to the concept of self-focused attention, in which individuals monitor their somatic, cognitive and internal processes in an attempt to eliminate the risk of negative social evaluation, a recognised mechanism underlying social anxiety (Spurr & Stopa, 2002). This anxiety related tendency may result in the making of more internal shameful attributions alongside maintaining feelings of distress and discomfort. Thirdly, it has been shown that both shame and social

anxiety are related to escape and withdrawal e.g. submissive and safety behaviours (Lewis, 1971; Tangney & Dearing, 2002; Weeks Heimberg & Heuer, 2011), with many behaviours functioning to hide aspects of the self (Tangney & Dearing, 2002) or to maintain social rank (Gilbert, 2000). Although theoretically linked, the empirical literature to date has not been collated to allow for the extraction of clearer evidence, the testing of theoretical models and inference of increased understanding of the links between these factors.

1.1.3 Aims of this research

The aim of this review was to systematically evaluate the current evidence available on the association between shame and social anxiety at both clinical and sub-clinical levels. The primary aim was to examine the direct relationship between shame and social anxiety by testing the hypothesis that measures of shame would be positively related to measures of social anxiety symptomology in both clinical and non-clinical populations. Secondary aims included exploring 1) whether social anxiety was differentially related to internal and external shame and 2) the role of additional factors e.g. age, gender, co-morbidities, on the primary relationship of interest. In addition a synthesis and critical appraisal of the evidence base examined the extent to which methodological factors influenced the strength of identified associations and addressed key issues for the designing of future research.

1.2. Method

1.2.1 Search Strategy

Systematic searches were undertaken of: the Web of Science Core Collection, Ovid (incorporating Embase Classic + Embase 1947 to 2015 January 16; Ovid MEDLINE (R) 1946 to January Week 3 2015; PsycARTICLES Full Text; PsycINFO 1806 to January Week 3 2015 and Journals@OVID Full Text January 16, 2015) and EBSCOHost (incorporating CINAHLPlus and ERIC) online databases. All publication years provided by these databases were included up until the date of the search conducted in January 2015. Finally a search, using the internet search engine "Google" was conducted, reference lists of identified papers were examined and primary authors were emailed to identify ongoing or planned studies. Searches were conducted for key terms within titles, keywords, abstracts (and any other field). Variations of the following terms were used: (sham*) AND (social*-anx* OR social*-phobi*), see Appendix B.

1.2.2 Study Selection

Given the limited literature in this area, it was decided that all published controlled, quasi-experimental and observational studies would be included in the systematic review with no date restrictions. All populations were included i.e. clinical and non-clinical samples, of all age groups. The search included published empirical studies with clearly defined quantitative measures (structured clinical interviews, diagnostic or screening tools) of both shame and social anxiety symptomology. In order to address the primary study aim only studies which directly analysed the association between shame and social anxiety were selected. Only research published in peer-reviewed journals were included and therefore research identified from dissertations, book chapters, poster abstracts and conference presentations were excluded. Due to the difficulties in accessing translation services only articles published in English were included. Both adolescent and adults were included because onset of SAD is common in adolescence (Bruce, Yonkers, Otto et al, 2005). Studies which reported only a subscale social anxiety score of a general symptomology measure were excluded to aid in identification of reliable and valid findings.

Table 1.1 Inclusion and Exclusion Criteria for Systematic Review

| Inclusion | Exclusion |
|---|--|
| Published case study, small study, controlled study or non-controlled study | Non-peered review materials e.g. Dissertation Abstracts; Book Chapters; Conference Proceedings. |
| All populations (clinical/ non-clinical/ child/ adult) | Qualitative Studies |
| Full text available | Animal based studies |
| Social anxiety/ social phobia as outcome measure or clinical diagnosis of social anxiety disorder | Social Anxiety measured as subscale of general screening tool. No independent measure used. |
| Quantitative measure of shame (including external, internal or other recognised measure) | Measure of shame <i>of</i> diagnosis only e.g. shame of having a mental health condition e.g. psychosis. |
| Statistical analysis of the relationship between the two constructs | |
| Article published in English | |
| Peer Reviewed | |
| All years | |

1.2.3 Data extraction and quality assessment

Information was collated for each of the studies included in the final selection for systematic review. This included study characteristics, participant characteristics, key variables and measures, relevant confounding variables, statistical analyses and key outcomes. A standardised form (Appendix C) was used for this purpose and a summary of this information is presented for each study in Table 1.2.

A quality assessment tool was developed for the purpose of appraising the methodological quality of identified studies (Appendix D). Available checklists for rating the quality of published studies are predominantly designed to evaluate research which utilises randomised controlled trials or other experimental methodology. As the studies identified for inclusion, in the current review, are observational studies such checklists would not be appropriate. The Reporting of Observational Studies in Epidemiology (STROBE) initiative (Vandenbroucke, von Elm, Altman, et al, 2007; vonElm, Altman, Egger et al, 2008) proposed a checklist of recommendations developed to ensure good quality reporting of observational research. Whilst these guidelines were not designed to provide a measure of study quality they do provide a framework by which to evaluate published observational research. Therefore the STROBE guidelines were used as a foundation in the development of quality criteria. In addition existing guidelines such as the Scottish Intercollegiate Guidelines Network guidance on systematic literature reviews (SIGN, 2008); Kmet, Lee & Cook's (2004) Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a variety of fields and York's Centre for Reviews and Dissemination guidance for undertaking reviews in healthcare (CRD, 2009) were considered.

1.2.3.1 Quality Criteria

Studies were rated using 11 quality criteria items across five different dimensions: research questions and objectives; sampling; design and method; statistical analysis and generalisability, outlined in Appendix D. Numerical ratings were assigned, corresponding to the following quality categories: 2= well covered, 1= adequately addressed, 0= poorly addressed, 0 = not addressed/ not reported/ not applicable. An item was rated as non-applicable if it was not relevant to the study design or article. A total numerical score was not calculated, in keeping with guidance of the CRD (2009) (Juni, Witschi, Bloch & Egger, 1999). All studies included in the final selection were scored according to the quality criteria by two separate researches, independently of one another. Inter-rater reliability was initially found to be moderate (Cohen's kappa =.46). Differences across ratings between the two reviewers were discussed and the criteria were amended. The quality of a subset of ten randomly selected studies was then re-scored leading to improved reliability (Cohen's kappa=0.874).

1.3. Results

1.3.1 Systematic Literature Search

Initial searches identified a total of 2055 publications (1929 OVID, 26 ERIC & CINAHL & 100 Web of Science). Removal of duplicates resulted in 1207 publications. First, titles of publications were screened resulting in the identification of 76 articles. Secondly, abstracts were manually reviewed based on the above eligibility criteria, resulting in 31 articles. In the case of uncertainty over the inclusion of a paper, the full article was assessed. Reference lists of all studies that met the inclusion criteria were checked and two additional studies were added. Full papers that were not deemed appropriate are outlined in Appendix E. Twenty one studies were identified to meet the inclusion criteria and were deemed suitable to be part of the final methodological review and appraisal stage. A flowchart based on the PRISMA statement (Moher, Liberati, Tetzlaff et al, 2009) provides an overview of the systematic study selection process and outlines each stage (Figure 1.1).

1.3.2 Methodological quality of included studies

Methodological ratings for each study, on the quality criteria measure, are provided in Table 1.3. Included studies were generally of good methodological quality, scoring highly across criteria. Seven studies appeared to have adequate, but slightly poorer quality in that they received "poorly addressed" rankings on multiple criteria. Hedman et al (2013), Fergus et al (2013) and Lutwak & Ferrari (1997) appeared the strongest methodologically with consistency across criteria. In contrast the study of Darvill (1992) had significant variability across domains with many areas of methodological weakness.

1.3.3 Characteristics of Included Studies

Table 1.2 provides a summary of the descriptive characteristics and key findings of the twenty one studies included in this systematic review. All included studies are observational in nature: 18 cross-sectional studies (Birchwood et al, 2006; Darvill et al, 1992; Field & Cartwright-Hatton, 2008; Gilbert, 2000; Gilbert & Miles, 2000; Gilbert et al, 1994; Grabhorn et al, 2006; Harder et al, 1992; Harder et al, 1993; Harder & Zalma, 1990; Lutwak & Ferrari, 1997; Matos et al, 2013; Michail & Birchwood, 2013; Moscovitch et al, 2012; Scheel et al, 2014; Shahar et al, 2014; Zhong et al, 2008; Zimmerman et al, 2014), 1 within group pre-test, post-test intervention study (Fergus et al, 2010), 1 case control study (which incorporated a within group pre-test, post-test intervention design) (Hedman et al, 2013) and 1 quasi-

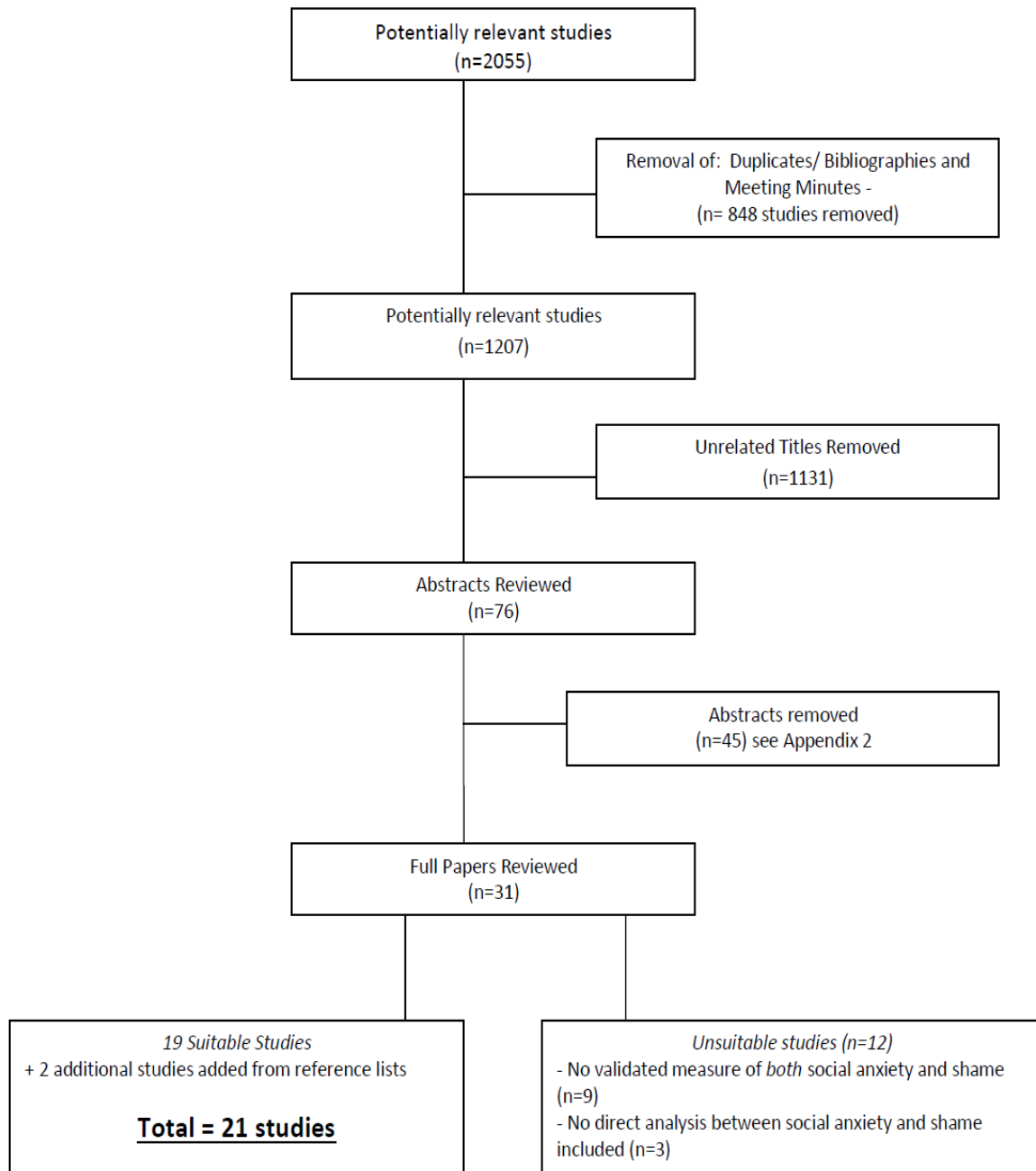


Figure 1.1. Flow Chart of Systematic Search Process

Table 1. 2. Characteristics and Key Findings of Included Studies

| Study | Population Overview | Clinical Sample | Measure of Shame | Measure of Social Anxiety | Other Measures | Design (Intervention/ Experiment where relevant) | Statistical Tests Used | Key Findings | Reported association/ relationship between shame and social anxiety where available |
|---|--|-----------------|---|---------------------------|---|---|--|--|--|
| Birchwood, Trower, Brunet, Gilbert, Iqbal & Jackson (2006) | <p><u>2 Groups - determined by the Peters (2000) criteria</u></p> <p>-<i>Socially Anxious</i> (n=23), MeanAge:23.8(4.7), 26% female</p> <p>-<i>Non- Anxious</i> (n=56), MeanAge: 22.7(5.8) 21.4% female</p> <p>All participants met ICD-10 criteria for schizophrenia or related disorders - first episode psychosis only.</p> | Yes | -OAS -PBIQ (shame cognitions of psychosis) | SIAS FNE | <p>-Positive and Negative Syndrome Scale (PANSS)</p> <p>-Appraisals of Psychosis (PBIQ)</p> <p>-Depression (CDSS)</p> <p>-Social Comparison (SCS)</p> <p>-Premorbid functioning (PAS)</p> | Between group cross-sectional study | <p>Multivariate Analysis of variance (MANOVA)</p> <p>Analysis of Covariance (ANCOVA)</p> | Individuals with social anxiety experienced greater shame attached to their diagnoses and greater external shame. This was upheld when depression was controlled for. | <p><i>OAS by group</i></p> <p>SA group: 38.3 (14.9)/ Non-SA group: 18.1 (13.4)</p> <p>Cohen's $d = 1.2$</p> <p><i>(No t-tests/ correlations reported)</i></p> |
| Darvill, Johnson & Danko (1992) | Undergraduate students (n=96) . MeanAge: n/r 66% female | No | DCQ | SCS | -Embarrassability (EPQ-R) -Guilt (DCQ) -Altruism | Cross-sectional study | Correlation - (type of test not reported) | -Relationship between shame and neuroticism demonstrated - Individuals who scored high on shame also scored high on social anxiety | DCQ/SA-SCS - ($r = .26$, $p < .05$) |
| Fergus, Valentiner, McGrath, & Jencius (2010) | <p>Patients in an intensive outpatient anxiety disorder programme (n=127). MeanAge: 29.2(13.8), 54% female</p> <p><i>Diagnoses:</i></p> <p>-OCD (n=53, 41.7%), -SAD (n=25, 19.6%) -PD (n=28, 22%) -GAD (n=18, 14.2%) -ADNOS (n=3, 2.4%)</p> <p>Diagnoses based on MINI assessment (>6). Significant comorbidity but grouped based on primary diagnoses. No comorbid substance abuse/ psychosis.</p> | Yes | TOSCA | SIAS | <p>-OCD (OCI-R); -Panic (PAS(b)) -GAD(PSWQ) -Depression (BDI) -Guilt (TOSCA)</p> | <p>Within group pre-test post-test design</p> <p><i>Treatment:</i></p> <p>Intensive intervention - 3/4 times a week - 3.5 hours a day.</p> <p>Treatment included psychoeducation, cognitive therapy and exposure.</p> <p>OCD- exposure and response prevention</p> <p>SAD- behavioural experiments</p> <p>PD - interoceptive exposure</p> <p>GAD -worry exposure.</p> <p>(Not manualised)</p> | <p>Zero Order Correlations</p> <p>Partial correlation</p> | <p>-Internal shame was found more relevant to symptoms of anxiety disorders than is guilt.</p> <p>- Only SAD and GAD were found to be associated to shame proneness</p> <p>-Greater change (pre to post treatment) in SAD symptoms was associated with greater change in shame-proneness</p> | <p>TOSCA-S/ SIAS - ($r = .52$, $p < .0012$)</p> <p>TOSCA-S)/SIAS(<i>partial correlation controlling for other anxiety disorder symptoms, depression symptoms and other proneness scale</i>)-($r = .4$, $p < .0012$)</p> <p>Changes in SAD/shame-proneness- ($r = .45$, $p < .0012$)</p> |
| Contd.. | | | | | | | | | |

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|---|---|-------|------------------------------|-----------------|--|---|--|--|--|
| Field & Cartwright-Hatton (2008) | Undergraduate students (n=559), MeanAge:22(5.4), 81.4% female (some data unavailable) | No | TOSCA-3 | SPAI | - Visual Imagery (VVIQ) -Rumination (SMRI) -Worry (PSWQ) -Obsessive Beliefs (OBQ-87) -Interpretation of Intrusions Inventory | Cross-sectional study | Pearson product moment correlation Structured Equation Modelling | That trait rumination, obsessive beliefs, interpretation of intrusions, shame and worry could best be represented as indicators of a common cognitive process when predicting social anxiety | SPAI/TOSCA-3-S - (r=.172, p<.001) |
| Gilbert (2000) | <u>2 groups</u> -Psychology students (n=109) MeanAge=25, 88.07% female -Inpatient depressed patients (n=50) MeanAge= 39, 52% female. Diagnoses determined by ICD10 & BDI>10. All receiving treatment | Mixed | TOSCA PFQ2 OAS | SIAS FNE | -Depression (CES/D & BDI) -Guilt (TOSCA/PFQ2) -Social Rank- (SBS) -Social Comparison - (Social Comparison Scale) | Between-participant cross-sectional study | Independent t-tests Pearson product-moment correlations Partial Correlations Hierarchical Multiple Regression | -Social anxiety in both groups highly correlated with all shame measures -In both groups shame and depression no longer related when controlling for social anxiety but social anxiety and shame remain correlated when controlling for depression. -Shame, social anxiety and depression (but not guilt) are highly related to feeling inferior and to submissive behaviour. -In depressed populations shame <i>may</i> operate primarily through social anxiety | <i>Students:</i> SIAS/TOSCA-S - (r=.54, p<.01) SIAS/OAS - (r=.58,p<.01), SIAS/PFQ2S - (r=.62, p<.01) <i>Depressed Group:</i> SIAS/TOSCA-S - (r=.54, p<.01) SIAS/OAS - (r=.58,p<.01), SIAS/PFQ2S - (r=.55, p<.01) <u>Partial r (depression)</u> <i>Students:</i> SIAS/TOSCA-S - (r=.44, p<.01) SIAS/OAS - (r=.44,p<.01), SIAS/PFQ2S - (r=.5, p<.01) <i>Depressed Group:</i> SIAS /TOSCA-S - (r=.39, p<.01) SIAS/OAS - (r=.38,p<.01), SIAS/PFQ2S - (r=.4, p<.01) |
| Gilbert & Miles (2000) | Psychology students (n=155) MeanAge=24.5(7.8) 79.35%female | No | OAS PFQ2 | B-FNE | -Sensitivity to put down -Guilt (PFQ2) -Social Comparison (SCS) -Depression (CES-D) -Aggression (AQ) | Scale Validation Study Cross-sectional study | Pearson product-moment correlations Principal component analysis/ Promax Rotation | -Self-Blame but not blaming others for criticism was associated with depression, social anxiety and shame. -Positive association found between shame and social anxiety -Those who see themselves as down rank tend to blame themselves for criticism, while as those who see themselves as superior blame others | PFQ2/B-FNE - (r=.64, p - n/r) OAS/B-FNE = (r=.477, p - n/r) |
| Gilbert, Pehl & Allan (1994) | Psychology students (n=125) MinAge = 18- No upper age provided, 72.8% female | No | DCQ A-DCQ | FNE | -Depression (BDI) -Guilt (DCQ) -Submissive Behaviour Scale | Cross-sectional study | Pearson product-moment Correlations, Hierarchical and Multiple Regression Analysis | -Fear of Negative Evaluation significantly correlated with shame -Distinction between shame and guilt upheld. -Evidence that submissive behaviours are involved in both shame and depression | DCQ/FNE - (r=.52, p<0.001) |

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|--|---|-----|--------------------------------|-----------------|---|---|---|---|---|
| Grabhorn, Stenner, Stangier & Kaufhold (2006) | Female inpatients (n=120). Age: 17-60. German Sample <i>Groups:</i> -Anorexia Nervosa (n=30) MeanAge: 25.5(7.7); -Bulimia Nervosa (n=30) MeanAge:24.9(6.8); -Anxiety Disorder (n=30) MeanAge:36.9(12.8); -Depression (n=30) MeanAge:41.1(10.9). Diagnoses based on SCID. - No control group - anxiety and depression groups acting as control. | Yes | ISS | SIAS SPS | Depression (SCL-90) | Cross-sectional study | Analysis of Variance (ANOVA) Post-hoc (Scheffe) mean comparison corrections Analysis of Covariance (ANCOVA) | -Those with AN and BN had higher internalised global shame than those with anxiety disorders and depression -Those with BN had higher scores on social performance anxiety -Once shame was partialled out, group differences of social anxiety disappeared i.e. shame is a key factor in social anxieties in those with eating disorders. | ANCOVA (<i>shame and depression as covariates</i>) ISS/SPS - F(df (n/r))=34.702, p=0.000. ISS/SIAS - F(df (n/r))=34.685, p=0.000 SIAS/ISS =(r=.61, p=n/r) <i>Correlations not presented in text.</i> |
| Harder, Cutler & Rockart (Study1) (1992) | Psychology undergraduate students (n=58) MeanAge=18.64 51.7% female | No | PFQ2 ASGS SCAAIR | SCS | -Depression (BDI) -Guilt (PFQ2/ ASGS/SCAIIR) -Self derogation (KSDS) -Narcissism (NPI-SF) -Shyness (SSI) -Social Desirability (SD) -External Locus of Control (Rotter) | Scale Validation Study Cross-Sectional study | Pearson product-moment correlations | -All shame scales found to be valid. -Positive correlations identified between shame scales and social anxiety. -Positive relationship between guilt and social anxiety was found to diminish once shame was controlled. | ASGS-S/ SA(SCS) - (r=.49, p<.001) PFQ2-S/ SA(SCS) - (r=.23, p<.06) SCAAIR- S/ SA(SCS) - (r=.3, p<.05) |
| Harder, Rockart & Cutler (1993) | University students (n=70) MeanAge=18.5, 50% female | No | PFQ2 | SCS | -Self derogation (KSDS) -Guilt (PFQ2) -Instability of Self (Rosenberg) -Shyness (SSI) -External Locus of Control (Rotter) | Scale Validation Study Cross-Sectional study | Pearson product-moment correlations | -Shame was found to have direct relationship with social anxiety -No gender differences identified in relationship | PFQ2-S/ SA(SCS) - (r=.37, p<.01) |
| Harder & Zalma (1990) | Psychology college students (n=63), MeanAge:18.46, 41.2% female | No | PFQ2 ASGS | SCS | -Depression (BDI); Guilt (PFQ2/ ASGS); Self-derogation (KSDS);Narcissism (NPI-SF); Shyness (SSI); Social Desirability (SD); External Locus of Control (Rotter); Intellectualisation; Machiavellianism | Scale Validation Study Cross-Sectional study | Pearson product-moment correlations | -ASGS appeared slightly more valid scale than PFQ2 for measuring shame -Positive correlation between shame scales and social anxiety. -Social anxiety differed in its relationship to shame and guilt | ASGS-S/ SA(SCS) - (r=.39, p<.01) PFQ2-S/ SA(SCS) - (r=.23, p<.1) |

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|--|--|-------|----------|--|--|--|---|---|---|
| Hedman, Storn, Stunkel & Mortberg (2013) | <p><i>Groups</i></p> <p>-SAD group (n=67) - MeanAge: 33.5(9.1), 64.2% female.</p> <p>Diagnosis determined by SCID.</p> <p>Exclusion criteria: bipolar or psychotic symptoms.</p> <p>- Controls (n=72). Psychology students. MeanAge: 25.8(6.3), 80.6% female. Those identified to have highSA ≥ 6 on MINI-SPIN (n=24) removed</p> <p>-Replication Sample (n=22) psychology students matched to demographic characteristics. MeanAge:32.6(10.7), 58.1% female</p> | Mixed | TOSCA | <p>SCID</p> <p>SIAS</p> <p>LSAS-SR</p> | <p>- Guilt (TOSCA)</p> <p>- Depression (BDI)</p> | <p>1) Case Control Study</p> <p>2) Within Group pre-test post-test (1 year follow up) design</p> <p><i>Treatment Options:</i> CBT based on Clark et al (2003)</p> <p>- Individual format (n=32) 16 weeks</p> <p>-Group Therapy (n=35) 17 sessions over 3 weeks; 6-7 group members.</p> | <p>Pearson Product moment correlations</p> <p>Linear Regression Models</p> <p>Independent and paired t-tests</p> | <p>-Shame was elevated in persons with SAD compared to the control replication sample, but not to the main control sample</p> <p>-Social anxiety related to shame independently of depression (only on SIAS)</p> <p>-After CBT those with SAD had significantly reduced their shame</p> <p>-Proposes that the association between shame and social anxiety is complex</p> | <p><u>Baseline t-tests</u></p> <p>-SAD /Control - TOSCA-S $t(1,133)=0.53, p<.96, d=0.03$</p> <p>-SAD/Replication - TOSCA-S $t(1,82)=2.5, p<.02, d=0.65$</p> <p><u>Correlations</u></p> <p>SIAS/TOSCA-S - ($r=.39, p<.01$)</p> <p>LSAS-SR/TOSCA-S - ($r=.3, p<.05$)</p> <p><u>Partial Correlations (control BDI)</u></p> <p>SIAS/TOSCA-S - ($r=.29, p<.005$)</p> <p>LSAS-SR/TOSCA-S - ($r=.14, p=n.s.$)</p> <p><u>Within group t-tests</u></p> <p>-pre v post TOSCA-S $t(43)=2.62, p<.02, (Cohen's d=0.44)$</p> |
| Lanteigne, Flynn, Eastabrook & Hollenstein (2014) | <p>Girls (n=49) aged 12-17</p> <p>MeanAge=14.4(1.2)</p> <p>100% female</p> | No | ESS | <p>SAS-A(R)-SF</p> | <p>-Emotion Regulation (ERQ & DERS)</p> <p>- Depression (CDI)</p> <p>-Arousal (heart beat)</p> <p>- Self-Conscious Affect (GROSCA)</p> | <p>Quasi-experimental multi-method approach</p> <p><i>Experiment</i></p> <p>Emotional responses to a natural social stressor (i.e. a spontaneous speech in front of a stranger)</p> | <p>Dependant t-tests</p> <p>Bivariate Correlations</p> <p>K-Means Cluster Analysis</p> <p>One way analysis of Variance (ANOVA)</p> | <p>-Shame and social anxiety found to be positively correlated</p> <p>-Greater experience than expression during a speech was related to trait-like shame</p> <p>-Girls with high experience and expression, but low arousal had more difficulty regulating their emotions and more internalising problems.</p> <p>-Greater experience of self-consciousness was associated with higher difficulty regulating emotion, Depression, Shame and Social Anxiety</p> | <p>ESS/SAS-A(R) - ($r=.85, p<.01$)</p> |
| Lutwak & Ferrari (1997) | <p>Psychology students (n=182),</p> <p>MeanAge:20.2,</p> <p>72.83% female</p> | No | AS(ASGS) | <p>IA</p> <p>SAD</p> <p>FNE</p> | <p>Social Desirability - (SD)</p> | <p>Cross-sectional study</p> | <p>T-tests for independent samples;</p> <p>Zero order inter-correlations;</p> <p>Multiple regressions to explore role of predictors</p> | <p>-Shame proneness found to relate to social avoidance/ distress, interaction anxiety and fear of negative evaluation</p> <p>-Interaction anxiety & social distress/ avoidance significant predictors of shame-proneness</p> <p>-Suggestion that social anxiety may be valuable in the treatment of shame proneness</p> <p>-No gender differences</p> | <p>AS /IA - ($r=.47, p<.01$)</p> <p>AS/SAD- ($r=.45, p<.01$),</p> <p>AS/FNE - ($r=.32, P<.01$)</p> <p><u>Predictors</u></p> <p>IA (Beta=0.24); SAD (Beta=0.18); $F(3,178)=27.03, p<0.01$</p> |

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|--|---|-------|---|-----------------|---|---|---|---|--|
| Matos, Pinto-Gouveia & Gilbert (2013) | General population (n=328), MeanAge:37.3(11.7), 67.1% female. Portuguese Sample. | No | OAS ESS | SIPAAS | -Paranoia (GPS) - Shame Memories (CES; IES-R) - participants were primed to recall a stressful shame experience from childhood or adolescence. | Cross-sectional study | Pearson Product Moment Correlations Path Analyses | - Moderate association of social anxiety to internal shame - Paranoid anxiety related to external shame - Internal and external shame are associated - Guilt unrelated to psychiatric symptoms - Shame memory predicted paranoia but not social anxiety | SIPAAS/OAS - ($r=.43$, $p<.01$) SIPAAS/ESS - ($r=.57$, $p<.01$) |
| Michail & Birchwood (2013) | <u>4Groups</u> : -Non-psychotic SAD (n=31) MeanAge:27.6(5), 64.5% female; -First Episode Psychosis (FEP) (n=60). MeanAge:24.6(4.5), 23.3% female -FEP&SAD (n=20), MeanAge: 24.4(5.1), 65% female -healthy controls (n=24), MeanAge:24.2(5), 54.2% female. Diagnoses determined by SCAN (WHO, 1999) and ICD-10 criteria. | Mixed | OAS | SIAS SPS | -Psychosis (PANSS) -Cognitive Appraisals about psychosis (PBIQ) -Social Comparison (SCS) | Cross-sectional study | Multivariate Analysis of Variance (MANOVA) | -Shame proneness and loss of social status were significantly elevated in those with SAD compared to those with psychosis only or healthy controls -Those with psychosis and social anxiety experienced greater shame linked to their diagnosis than those with SAD only | MANOVA: SAD(present, absent)/ psychosis (present, absent) -Higher shame in those with SAD: ($F(1,135)=123.1$, $p<0.01$) . |
| Moscovitch, Rodebaugh & Hesch (2012) | Undergraduate psychology students <u>2 groups</u> -70 HSA-High Social Anxiety (30 or above on SPIN), MeanAge: 20.9(4.69), 65.7% female -74 LSA-Low Social Anxiety (12 or below on SPIN), MeanAge: 21.78(5.63), 66.2% female | No | Participants were asked to rate on a 0-4 scale the extent to which they felt ashamed after - a) autobiographical social blunder b) imagined social blunder c) imagined-other making blunder recall a social blunder. | SPIN | -Depression (BDI-II) | Between-participant Cross-sectional study | Multivariate Analysis of variance (MANOVA) T-tests for independent samples Multiple regressions to explore role of predictors | - HSA participants overestimated the negative consequences of their own autobiographical blunders, imagined blunders and when imagining third party others. -Those with HSA recalled their past social blunders /imagined social blunders as being more shame inducing | Difference between those with High SA and Low SA ($p\leq.01$) on perceived consequences of blunders. <i>Group Differences on Shame Subscale</i> a) Autobiographical blunders - $t(139)=2.80$, $p\leq.01$, $d=0.47$ b) Imagined blunder (self) $t(139)=5.67$, $p\leq.001$, $d=0.96$ c) Imagined blunder - observer $t(140)=5.14$, $p\leq.001$, $d=0.86$ |
| Shahar, Doron & Szepeswol (2014) | Non-clinical Community Sample (n=219). MeanAge: 38.7(13.1), 50.22% female, Israeli Sample. | No | TOSCA-3 (short form) | SIAS | -Childhood maltreatment (CTQ-SF) -Self Criticism (Inadequate Self Subscale - FSCRS) -Depression (DASS-21) | Cross-sectional study | Bivariate Correlations Three Path Sequential mediation multiple regression model | -Emotional abuse but not emotional neglect, predicted shame-proneness, which in turn predicted self-criticism which predicted social anxiety symptoms. | SIAS/TOSCA-S - ($r=.44$, $p<.01$) |

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|---|---|-------|---------------------------|---------|---|---|---|---|---|
| Scheel, Bender, Tuschen-Caffier, Brodfuhrer et al (2014) | Full sample - 100% female, German speaking Community Sample (n=290) MeanAge:43.46(16.18), Clinical Sample -BPD (n=92) , MeanAge:28.02(7.45) -ADHD (n=86), MeanAge:35.8(11.09) -MDD(n=17), MeanAge:46.65(9) -SAD (n=33) MeanAge:33.33(10.84) All assessed with SCID I & II, met DSM IV criteria; those with comorbid diagnoses excluded. | Mixed | SHAME | SCID-II | -Psychopathology symptoms (BSI) | Between-Participant Cross-sectional study | One-way Analysis of Variance (ANOVA) T-tests for independent samples Multivariate Analysis of variance (MANOVA) | -Patient groups differed significantly on measures of shame -Significantly higher levels of shame were found in the BPD and SAD samples as compared to the COM sample -SAD patients displayed higher bodily and cognitive shame -BPD patients reported the highest levels of existential shame | Group differences on Total SHAME: COM/SAD - (p≤0.001, d =0.75) ADHD/SAD - (p ≤0.001, d=0.59) BPD/SAD - (p≤0.752, d = 0.05) MDD/SAD - (p≤0.134, d=0.5) (See Paper for results relating to: body shame, cognitive shame and existential shame) |
| Zhong, Wang, Zhang et al (2008) | All college students: <u>2 groups</u> Chinese sample (n= 211), MeanAge=20.12(1.56), 68.7% female American Sample (n=211) MeanAge=20.22(1.9), 68.7% female | No | Experience Scale of Shame | SAI | -Personality (EPQ - RS) | Cross-sectional Study | Multivariate Analysis of variances (MANOVA) Pearson Product Moment Correlations Structured Equation Modelling | -Shame found be a mediator between personality and social anxiety in the Chinese sample -Shame was not found to be a mediator between personality and social anxiety in the American sample -The American sample had higher shame and lower social anxiety than the Chinese sample. | Only subscale correlation scores reported (See paper for full table): |
| Zimmerman, Morrison & Heimberg (2014) | SAD sample (n=88), MeanAge: 29.66(10.54), 54.5% female. Diagnoses based on ADIS-IV-L - primary or co-primary. | Yes | ISS | SIAS-S | -Depression (BDI-II) -Submissive behaviour (SBS) | Cross-sectional study | Bivariate Correlations Moderated Mediation Moderated regression analyses | -Submissive behaviour mediated the relationship between social anxiety and shame in men (indirect effect = 0.29; 95% bootstrap, CI=0.11-0.53) but not women, with SAD (indirect effect =0.09: 95% bootstrap, CI=-0.02-0.035) -The relationship between submissive behaviour and shame was greater in men than women with SAD | SIAS-S/ISS - (r=.59, p<.001) SIAS-S/ISS (women) - (r=.46, p<.01) SIAS-S/ISS (Men) - (r=.68, p<.001) |

Shame scale Abbreviations: ADCQ-Adapted Dimensions of Conscience Questionnaire (Gilbert, Pehl & Allan, 1994); AS - Adapted Shame Subscale (Hoblitzele, 1982); ASGS-Adapted Shame & Guilt Scale (Hoblitzele, 1982); DCQ- Dimensions of Conscience Questionnaire (Johnson, Danko, Huang, Park, Johnson & Nagoshi, 1987); ESS-Experience of Shame Scale (Andrews, Qian et al, 2000); Experience Scale of Shame (Qian et al 2000); ISS-Internalised Shame Scale (Cook, 1987; Cook, 1994); OAS- Other as Shamer Scale (Allan et al, 1994; Goss et al, 1994);PFQ2- Personal Feelings Questionnaire 2 (Harder & Zalma, 1990); SCAAIR-Self Conscious Affect and Attribution Inventory Revised (Tangney, 1990); TOSCA-Test of Self-Conscious Affect (Tangney et al, 1992); TOSCA-3 (Tangney, Dearing, Wagner & Gramzow, 2000).

Social Anxiety Scale Abbreviations: B-FNE-Brief Fear of Negative Evaluation Scale (Leary, 1983); FNE-Fear of Negative Evaluation (Watson & Friend, 1969); IA-Interaction Anxiousness Scale (Leary & Kowalsky, 1987); LSAS-SR- Liebowitz Social Anxiety Scale-Self Report (Fresco et al, 2001); MiniSpin-Mini Social Phobia Inventory (Connor et al, 2001); SAD-Social Avoidance/ Distress Scale (Watson & Friend, 1969); SAI-Social Anxiety Inventory (Qian et al, 2005); SAS-A(R)sf- Social Anxiety Scale for Adolescents Revised Short Form (Myers, Stein & Aarons, 2002); SCS-Self Consciousness Scale (Fenigstein, Scheier & Buss, 1975); SIAS-Social Interaction Anxiety Scale (Mattick & Clarke, 1998; Safran et al, 1998); SIAS-S-Social Interaction Anxiety Scale-Straightforward Total Score (Rodebaugh, Woods & Heimberg, 2007); SIPAAS-Social Inclusion and Performance Anxiety and Avoidance Scale (Pinto-Gouveia, Cunha & Salvador, 2003); SPAI-Social Phobia and Anxiety Inventory (Turner, Beidel & Dancu, 1996); SPIN-Social Phobia Inventory (Connor et al, 2000); SPS- Social Phobia Scale (Mattick & Clarke, 1998).

Confounding Variable Scale Abbreviations: ADIS-IV-Anxiety Disorders Interview Schedule for DSM-IV-Lifetime Version (DiNardo, Brown & Barlow, 1994); Aggression Questionnaire(Buss & Perry, 1992); BDI-Beck Depression Inventory (Beck, 1967); BDI-II - Beck Depression Inventory II (Beck, Steer & Brown, 1996); BSI- Brief Symptom Inventory (Derogatis & Melisaratos, 1983); CDI-Children's Depression Inventory (Kovacs, 1985); CDSS-Calgary Depression Scale for Schizophrenia (Addington, Addington & Maticka-Tyndale, 1993); CES-Centrality of Shame Memory (Bernsten & Rubin, 2006; Matos, Pinto-Gouveia & Gomes, 2010); CES-D-Centre for Epidemiological Studies Depression (Radloff, 1977);CTQ-SF-Childhood Trauma Questionnaire Short Form (Berstein et al, 2003); DASS-21-Depression Subscale of the Depression Anxiety Stress Scale-21 item version (Antony et al, 1998; Henry & Crawford, 2005); DERS-Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004); EPQ-R (Edelman's & McCusker, 1986); ERQ-Emotional Regulation Questionnaire (ERQ); FSCRS-Forms of Self-Criticizing/Self-Reassuring Scale (Gilbert et al, 2004); GPS-General Paranoia Scale (Fenigstein & Venable, 1992); Haan Intellectualisation Defense Scale (Haan, 1967; Morrissey, 1977);ICD-10 - International Classification of Diseases 10 (WHO,1992); IES-R-Traumatic Impact of Shame Memory-Impact of Event Scale-Revised (Weiss & Marmar, 1997); Instability-of-Self-Scale (Rosenberg, 1965); Interpretation of Intrusions Inventory III (Obsessive Compulsive Working Group, 2001); KSDS- Kaplan Self-Derogation Scale (Kaplan, 1975; Kaplan & Pokorny, 1969); Locus of Control Scale (Rotter, 1966)Marlow-Crowne Social Desirability Scale (Crowne & Marlow, 1960; 1964); Machiavellianism Scale-Revised (Christie & Geis, 1970); MINI-Mini International Neuropsychiatric Interview (Sheahan et al, 1998); NPI-SF - Narcissistic Personality Inventory-Short Form (Raskin & Hall, 1979; 1981); OBQ-87-Obsessive Beliefs Questionnaire (Obsessive Compulsive Cognitions Working Group, 2001); OCI-R-Obsessive Compulsive Inventory-Revised (Foa et al, 2002); PANSS - Positive and Negative Syndrome Scale (Kay, Oplar & Lindenmayer 1987); PAS-Pre-morbid Adjustment Scale (Cannon-Spoor, Potkin & Wyatt, 1982); PAS(b)-Panic and Agoraphobia Scale (Bandelow, 1999); PBIQ-Patients Beliefs about their Psychotic Illness (Birchwood et al, 1993); PSWQ-Penn State Worry Questionnaire (Meyer, Miller, Metzger & Borkovec, 1990);SBS-Submissive Behaviour Scale (Gilbert & Allan, 1994; Allan & Gilbert, 1997); SCAN-Schedules for Clinical Assessment in Neuropsychiatry (WHO, 1999); SD-Social Desirability Scale (Crowne & Marlowe, 1960); SCID-I & II-Structured Clinical Interview for DSM disorders (First, Spitzer et al, 1992); Sensitivity to Put Down (Gilbert & Miles, 2000); SMRI-Scott-McIntosh Rumination Inventory (Scott & McIntosh, 1999); SLC-90-Symptom Checklist (Edward et al, 2005); SSI- Stanford Shyness Inventory (Harder & Lewis, 1987; Zimbardo, 1977); Social Comparison Scale (Allan & Gilbert, 1995); VVIQ-Vividness of Visual Imagery Questionnaire (Marks, 1973).

Table 1.3. Ratings of Study Quality for Included Studies

| | <u>Objectives and Aims</u> | <u>Sampling</u> | | <u>Setting/ Data Collection</u> | <u>Design & Method</u> | | | <u>Power & Sample Size</u> | <u>Analyses</u> | | <u>Generalisability</u> |
|---|----------------------------|----------------------|----------------------|---------------------------------|----------------------------|----------------------|------------------------|--------------------------------|----------------------|-----------------------|-------------------------|
| | | Recruitment Method | Representative -ness | | Construct Specificity | Shame Measure | Social Anxiety Measure | | Statistical Analysis | Confounding Variables | |
| Birchwood, Trower, Brunet, Gilbert, Iqbal & Jackson (2006) | Well Covered | Well Covered | Well Covered | Poorly Addressed | Well Covered | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed |
| Darvill, Johnson & Danko (1992) | Adequately Addressed | Not Addressed | Poorly Addressed | Not Addressed | Adequately Addressed | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed | Not Addressed | Poorly Addressed |
| Fergus, Valentiner, McGrath, Jencius (2010) | Well Covered | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed | Well Covered | Well Covered | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed |
| Field & Cartwright-Hatton (2008) | Well Covered | Adequately Addressed | Adequately Addressed | Adequately Addressed | Adequately Addressed | Well Covered | Adequately Addressed | Well Covered | Well Covered | Well Covered | Adequately Addressed |
| Gilbert (2000) | Well Covered | Not Addressed | Adequately Addressed | Poorly Addressed | Well - Covered | Well Covered | Adequately Addressed | Adequately Addressed | Adequately Addressed | Well-Covered | Adequately Addressed |
| Gilbert & Miles (2000) | Well-Covered | Not Addressed | Poorly Addressed | Poorly Addressed | Adequately Addressed | Well-Covered | Adequately Addressed | Well-Covered | Well Covered | Not Applicable | Poorly Addressed |
| Gilbert, Pehl & Allan (1994) | Well-Covered | Adequately Addressed | Poorly Addressed | Poorly Addressed | Adequately Addressed | Adequately Addressed | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed | Poorly Addressed |
| Grabhorn, Stenner, Stangier & Kaufhold (2006) | Well Covered | Adequately Addressed | Well Covered | Poorly Addressed | Well Covered | Well Covered | Adequately Addressed | Adequately Addressed | Adequately Addressed | Well Covered | Poorly Addressed |
| Harder, Cutler & Rockart (1992) Study 1 | Well Covered | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed | Well-Covered | Adequately Addressed | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed |
| Harder, Rockart & Cutler (1993) | Adequately Addressed | Adequately Addressed | Adequately Addressed | Adequately Addressed | Adequately Addressed | Well-Covered | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed | Poorly Addressed |
| Harder & Zalma (1990) | Well-covered | Adequately Addressed | Adequately Addressed | Well Covered | Adequately Addressed | Well-Covered | Adequately Addressed | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed |
| Hedman, Storn, Stunkel & Mortberg (2013) | Well Covered | Well Covered | Well Covered | Well Covered | Well Covered | Well Covered | Well Covered | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed |
| Lanteigne, Flynn, Eastabrook & Hollenstein (2014) | Well Covered | Adequately Addressed | Adequately Addressed | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed | Poorly Addressed | Well Covered | Not Applicable | Adequately Addressed |
| Lutwak & Ferrari (1997) | Well Covered | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed | Well Covered | Well Covered | Well Covered | Adequately Addressed |

| | | | | | | | | | | | |
|---|--------------|----------------------|--------------|----------------------|----------------------|------------------|----------------------|----------------------|--------------|----------------------|----------------------|
| Matos, Pinto-Gouveia & Gilbert (2013) | Well Covered | Adequately Addressed | Well Covered | Well Covered | Well Covered | Well Covered | Adequately Addressed | Well Covered | Well Covered | Poorly Addressed | Adequately Addressed |
| Michail & Birchwood (2013) | Well Covered | Adequately Addressed | Well Covered | Not Addressed | Well Covered | Well Covered | Well Covered | Well Covered | Well Covered | Adequately Addressed | Poorly Addressed |
| Moscovitch, Rodebaugh & Hesch (2012) | Well Covered | Adequately Addressed | Well Covered | Well-Covered | Adequately Addressed | Poorly Addressed | Adequately Addressed | Well Covered | Well Covered | Well Covered | Well Covered |
| Scheel, Bender, Tuschen-Caffier, Brodfuhrer et al (2014) | Well Covered | Adequately Addressed | Well Covered | Poorly Addressed | Well Covered | Well Covered | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed | Adequately Addressed |
| Shahar, Doron & Szepsenwol (2014) | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed | Adequately Addressed | Well Covered | Adequately Addressed | Well Covered | Well Covered | Well Covered | Poorly Addressed |
| Zhong, Wang, Zhang et al (2008) | Well Covered | Not Addressed | Well Covered | Poorly Addressed | Adequately Addressed | Well-Covered | Adequately Addressed | Well-Covered | Well Covered | Adequately Addressed | Adequately Addressed |
| Zimmerman, Morrison & Heimberg (2014) | Well Covered | Adequately Addressed | Well Covered | Adequately Addressed | Well Covered | Well Covered | Adequately Addressed | Well Covered | Well Covered | Well Covered | Poorly Addressed |

experimental multi-method study (Lanteigne et al, 2014). Years of publication ranged from 1990 through 2014. Nineteen studies were conducted using adult participants, while as only one study explored relationships in an adolescent population with girls aged 12-17 (Lanteigne et al, 2014). The final study included participants aged 13 to 77 (Fergus et al, 2010), however no variance as a result of age was explored. Thirteen studies recruited non-clinical samples; four studies involved clinical patients only, while as four studies included mixed samples of clinical and non-clinical patients. Participants were recruited from various settings including inpatient treatment, outpatient clinics, local community groups and institutions and self-help organisations. In particular ten studies recruited undergraduate students only, while as two control groups consisted of students. Sample sizes ranged from 49 to 559, with a total of 3857 individuals included in this review. Of this, 72.28% of the sample were female while as only 7.44% of participants had a diagnosis of SAD. A variety of statistics were used; statistics of association such as regression or correlation analyses, t-tests and causal analyses such as mediation, and structured equation modeling.

1.3.4 Outcome Measures and Construct Specificity

As possible associations are strongly dependant on the ways in which concepts are defined and measured, it is essential to consider the reliability and validity of measures used. Table 1.4 outlines and details all measures of shame used in reviewed studies, including measures of: shame-proneness, internal shame and external shame. Although categorised as measures of shame-proneness, the PFQ2, TOSCA and TOSCA-3 are primarily measures of internal shame (Table 1.4). In this review, nineteen studies used psychometric tools which have been evidenced to have good reliability and validity, while as one study included a lesser known measure (Gilbert, Pehl & Allan, 1994). Moscovitch et al (2012) did not use a validated tool as participants were asked to rate on a 0-4 scale the extent to which they felt ashamed after a range of events. Similarly, a diverse range of psychometrics were used to measure social anxiety symptomology/ disorder (Table 1.5). Four studies used standardised diagnostic interview schedules (Fergus et al, 2010; Hedman et al, 2013; Michail & Birchwood, 2013; Scheel et al, 2014). The majority of studies used scale scores as continuous variables which were entered directly into analysis, while as two studies used clinical cut-offs to determine those with SAD (Birchwood et al, 2006; Peters, 2000) or those with high and low SA (Moscovitch et al, 2012).

Table 1.4. Details on Measures of Shame used in Included Studies

| Name | Measure of: | Scale format | Description | No of items | Reliability (shame subscale) | Validity (shame subscale) |
|--|----------------------------------|-----------------------------|---|--|--|--|
| ADCQ: Adapted Dimensions of Conscience Questionnaire (Gilbert, Pehl & Allan, 1994) | Shame experience | Situation based measure | Participants are asked to answer specific questions relating to their specific experience to a range of scenarios. Individuals were asked to rate their reaction using a seven point scale. These responses included 1) feeling helpless and paralysed, 2) feeling anger at the other (observer), 3) feeling angry with oneself, 4) feeling inferior to the other; 5) feeling self-conscious. | 13 shame items | ADCQ subscale α found to range =.86-.91 | Designed by researches for included study (Gilbert et al,1994). Adopts use of empirically supported shame provoking scenarios of the DCQ with additional questions derived from Lewis (1987) model of shame. All subscales found to correlate with shame subscale of DCQ and to be predictive of shame (Gilbert et al, 1994) |
| ASGS: Adapted Shame and Guilt Scale (Hoblitzelle, 1982; 1987) | Shame-proneness | Adjective based measure | This scale consists of a series of adjectives that are considered shame words and guilt words. Participants rate on a 7 point Likert scale how much the adjective reflects them. | 30 items (10 shame subscale) | Good internal consistency (α = .86) Test-re-test reliability has been found at .87 in a student sample (Robins et al, 2007). | Convergent validity has been shown through inter-correlations of ASGS, PFQ2, SCAAIR (Harder et al, 1992). Construct validity was determined using shame score as predictor of depression. Not widely used (Robins et al, 2007) |
| DCQ: Dimensions of Conscience Questionnaire (Johnson, et al, 1987) | Shame-proneness | Situation based measure | The scale asks individuals to imagine themselves in certain scenarios and indicate how badly they would feel about this on a 7 point scale. | 28 (13 shame subscale) | Adequate to good internal consistency: α = .77-.85 in cross cultural studies (Robins et al, 2007) | Found to have high construct validity in student population (Johnson et al, 1987). In addition factor analysis identified variance in outcome of the guilt and shame scales (Gore & Harvey, 1995) |
| ESS: Experience of Shame Scale (Andrews, Qian et al, 2000); Experience Scale of Shame (Qian et al 2000) | Internal Shame | Statement based measure | This scale measures characterological shame, behavioural shame and bodily aspects of shame. Participants respond on a 4 point-scale how frequently they have experienced shame, over the past year. | 25 items Portuguese version : 27 items Chinese version: 29 items | High internal consistency (α = .92-.94) Test-retest reliability over 11 weeks of .83 | Construct validity was determined using shame score as predictor of depression (Andrews et al, 2002). Has been used with both child and adolescent populations and within longitudinal research. |
| ISS: Internalised Shame Scale (Cook, 1989; Cook, 1994) | Internal Shame | Statement based measure | Assesses chronic, negative, global evaluations of the self, ensuing from life-related past experiences. Participants score statements on 5 point Likert Scale (0 -4). | 30 items (24 items internal shame subscale) German version :35 items | Good to excellent internal consistency(α = .96) Good test-retest reliability over 7 weeks of-.84-.94 | Designed using large clinical (n=370) and non-clinical populations (n=645). Concurrent validity identified in comparisons to PFQ2, SCAAI, anxiety, hostility and depression (Rybak & Brown, 1996). Difficulties have been identified in distinguishing from measures of self-esteem (Tangney et al, 1992) |
| OAS: Other as Shamer Scale (Goss et al, 1994) | External shame | Statement based measure | Modified version of the ISS. Participants rate on a 5 point Likert scale the frequency of how they perceive others to feel about him or her. Measures the extent to which others are seen as potentially shaming or derogating of the self | 18 item | Good to excellent internal consistency (α = .92) | Correlates with a number of measures of shame in both student and clinical populations (Gilbert, 2000) |
| PFQ2: Personal Feelings Questionnaire 2 (Harder & Zalma, 1990) | Shame-proneness / Internal shame | Adjective statement measure | Individuals are asked to rate on a 0-4 Likert point scale the extent to which they experience feelings of shame and guilt. | 22 (10 shame subscale) | Good internal reliability and factor structure α = .78. Test-retest reliability = .91. | Convergent validity shown through inter-correlations of ASGS, PFQ2, SCAAIR. Construct validity demonstrated as measure found to be predictive of depression, social anxiety and shyness (Harder et al, 1992)) |

| | | | | | | |
|---|--|------------------------|--|--|---|---|
| SCAAIR-: Self Conscious Affect and Attribution Inventory Revised (Tangney et al, 1988) | Shame-proneness / Internal shame | Scenario based measure | The participant rates the likelihood of thinking or feeling in ways consistent with shame, guilt and or/ other responses on a variety of situations. <i>(redesigned as TOSCA -see below)</i> | 13 situations | Internal consistency across four studies was found to be moderate to high (.46-.82) Test-retest reliability was found to be .71-.79 over a 5 week period (Tangney, 1990) | Scenarios were developed by participants in research studies, primarily college students. Convergent validity has been shown through inter-correlations of ASGS, PFQ2, SCAAIR (Harder et al, 1992). |
| SHAME (Scheel et al, 2013) | 3 subscales - bodily -cognitive -existential | Scenario based measure | Participants anticipate how much they anticipate to feel ashamed in a 6-point Likert scale for 21 potentially shameful scenarios. | 21 scenarios | Internal consistency found to be good $\alpha=0.86$ | Validation study in community sample found moderate levels of bodily and cognitive shame and low levels of existential shame (Scheel et al, 2013). |
| TOSCA: Test of Self-Conscious Affect (Tangney et al, 1992) | Shame-Proneness / Internal shame | Scenario based measure | This measure consists of a series of brief scenarios (10 negative and 5 positive). Each scenario is followed with four or five statements about positive feelings, thoughts and behaviours. | 2 versions: 15 item version 10 (does not contain positive scenarios) | Adequate internal consistency $\alpha = 0.77$ Good test - re-tests reliability (Tangney et al, 1992) | Measure designed solely with college and non-college adults. This is the most widely used measure of shame across a wide range of studies. Good construct validity is reported (Tangney et al, 1992). Gender differences found with women tending to score higher on shame scales than men. |
| TOSCA-3: Test of Self Conscious Affect 3 (Tangney, Dearing, Wagner & Gramzow, 2000). | Shame-Proneness / Internal shame | Scenario based measure | Participants are asked to evaluate the extent to which they might react with shame or guilt to a range of positive and negative scenarios Each scenario is followed by a 5 point Likert scale ranging from 1-5. | 2 versions: 16items 10 items (does not contain positive scenarios) | Internal consistency across subscales reasonably good Shame $\alpha = .77$ Test-retest reliability reported at .74 over 3.5 weeks. | Included scenarios developed from written, personal experiences of shame from a large sample of college and non-college adults. This scale is widely used and has found to have good construct validity with relationships to depression, anxiety, psychoticism identified (Rusch et al, 2007) |

Format of shame measures (Tangney et al, 2002):

- 1) Situation based scales - Participants read a selection of preselected scenarios and rate the extent to which they would feel a particular emotion in each situation
- 2) Scenario based scales - Participants read hypothetical scenarios and choose which responses they would be most likely to perform, or rate the likelihood they would choose each response
- 3) Statement based scales - Participants rate the degree to which they experience different feelings, cognitions and/or related behaviours specified in sentences
- 4) Adjective based scales - Participants rate the extent to which they experience different feelings or attribute emotions to the self.

Table 1.5. Details on Measures of Social Anxiety used in Included Studies

| Measure: | Description | No. of items (range) | Period assessed | Clinical Norms | Reliability | Validity |
|---|---|-------------------------|-----------------|--|--|---|
| B-FNE/ FNE: Fear of Negative Evaluation (Leary, 1983; Watson & Friend, 1969) | Measures a specific aspect of social anxiety i.e. the fear of loss of social approval. On the 30 item measure participants, state true or false, while as on the brief measure participants respond on a 1-5 point Likert scale. | 12 (12-60) 30 (0-30) | Current | For full scale: 0-12: Relaxed in social situations/ non-clinical symptoms 13-20: Average SA 21-30: High SA | High to excellent internal consistency: 12 item: $\alpha = .9$ 30 item: $\alpha = .92$ And 2 week test retest reliability ($r=.94$) | Correlates with social approval, desirability, depression and anxiety (Corcoran & Fischer, 2000). Factor analyses supported the construct validity (Collins et al, 2005) and divergent validity (Weeks, 2005). Both versions correlate closely to one another |
| IA: Interaction Anxiousness Scale (Leary & Kowalsky, 1987) | This scale evaluates experiences of interpersonal anxiety in situations involving face to face interactions, independent of actual behaviours, on a 5 point Likert scale. | 15 (15-75) | Current | No established cut-offs Student means reported as 38.6-40.6 (sd: 9-11.1) (Leary & Kowalski, 1991). Later study reported mean of 44 in Spanish sample (Sanz, 1994) | Internal consistency ($\alpha = .87-.89$). Test-re-test reliability over 8 week period ($r=.8-.84$) | The IAS was developed with university students. Convergent validity demonstrated through moderate correlation with other measures of social anxiety - SAD, FNE. Additional evidence of discriminate and factorial validity |
| LSAS-SR: Liebowitz Social Anxiety Scale-Self Report (Fresco et al, 2001) | This scale assesses how social phobia plays a part in your life across a variety of situations. Participants must answer two questions for a range of situations on a 4 point Likert scale. | 24 (0-144) | The past week | 55-65 moderate social phobia 65-80 marked 80-95 severe 95 + very severe | High test-retest reliability ($r=.82$) and good internal consistency ($\alpha = .95$) (Fresco et al, 2001) | Scale has been found to correlate to SIAS and SPS. Correlations between self-report and clinician versions highly significant. The scale has also been found sensitive to treatment change (Baker et al, 2002). |
| MiniSpin: Mini Social Phobia Inventory (Connor et al, 2001) | This is a 3 item scale used to screen for generalised social anxiety disorder. It is based on the SPIN, outlined below. Participants respond on 1-5 point Likert scale | 3 (0-12) | The past week | Scores of 6 or higher indicate possible problems with social anxiety | High internal consistency ($\alpha = .91$) Test retest reliability $r=.7$ | Sensitive to detect SAD (90% precision). Discriminant validity shown in ability to determine clinical and non-clinical groups. Construct validity shown through positive correlations with SIAS and SPS |
| SAD: Social Avoidance and Distress Scale (Watson & Friend, 1969) | This scale measures individuals reported distress, discomfort, fear and avoidance of social situations. Individuals decide if each statement is true or false for them. | 28 (0-28) | Current | Higher scores indicate greater social anxiety. No clinical cut offs. Sample norms: Males/ Females Below 4/ 0 - low 4-19/ 1-16 - intermediate 20+/ 17+ - high | High internal consistency ($\alpha = .9$). Test retest reliability = .68, after 1 month interval | This scale has been found to correlate moderately well with the FNE and STAI. Discriminant validity has been questioned due to high correlations with measures of general emotional distress (Turner, McCanna & Beidel, 1998). |
| SAI: Social Anxiety Inventory (Qian et al, 2005) | The SAI consists of items based on the diagnostic items of DSM-IV and ICD-10. 3 subscales: Tension and Anxiety (TA); Social Interaction Sensitivity (SIS); Social Interaction Confidence (SIC) are scored on a 5 point Likert scale | 22 (n/r) | n/r | n/r | Adequate internal consistency $\alpha = 0.77$. Test-re-test reliability, $r=0.9$ | Zhang et al (2006) showed significant correlations to the Social Phobia Scale and Social Interaction Scale. |
| SAS-A: Social Anxiety Scale for Adolescents Revised Short Form (Myers, Stein & Aarons, 2002) | This scale consists of three subscales: fear of negative evaluation, social avoidance and distress brought on by social situations. Adolescents rate how true each statement is for them on a five point Likert scale. The scale was designed to assess adolescents' feelings of social anxiety in the context of peer relationships. | 13 (1-5) | Current | High scores indicate greater social anxiety. No clinical cut-offs available for short form. | Both total scale and individuals subscales have been found to have good reliability, internal consistency ($\alpha = .93$) and good test-retest validity | Concurrent validity of the adjusted short scale was supported by significant correlations with a measure of negative affectivity in adolescent samples. |

| | | | | | | |
|---|--|----------------|------------------|---|--|--|
| SCS: Self Consciousness Scale (Fenigstein, Scheier & Buss, 1975) | This measure with three subscales: a) private self-consciousness - the tendency to pay attention to private internal aspects of the self; b) public self-consciousness - the tendency to be aware of and concerned about aspects of the self that others can perceive and c) social anxiety - the tendency to be anxious and uneasy in social situations. Individuals are asked to rate how well each statement describes them on a scale 0-4. | 23 (0-92) | Current | No clinical cut-offs. Higher scores, increased self-consciousness. Mean scores of college students: Private self-consciousness:26 Public self-consciousness :19; social anxiety scale: 13 | Research has shown internal consistency ($\alpha = .8$), however the internal consistency of the private subscale is often below .7. Test-retest reliability over 2 week period is good, $r=.73-.84$ | Construct and discriminant validity for total and subscale scores with those aged twelve and older has been demonstrated (Smith & Greenberg, 1981; Turner et al, 1978). |
| SIAS: -Social Interaction Anxiety Scale (Mattick & Clarke, 1998; Safran et al, 1998) | Participants rate their experience in social situations on a 5 point Likert scale (0-4). Taps generalised social fears rather than specific fears | 20 (0-80) | Current | Cut off score of 36 to discriminate between social anxiety and not. Sensitivity of 0.93 and positive predictive value of 0.84, have been reported | Excellent reliability (German version also found to be reliable) | Good construct validity (Heimberg & Turk, 2002) Good convergent and discriminant validity, having been shown to discriminate between clinical conditions, people with social phobia and without (Brown et al, 1997) Correlates highly with other measures of social anxiety |
| SIPAAS: Social Inclusion and Performance Anxiety and Avoidance Scale (Pinto-Gouveia et al, 2003) | Measures the degree of anxiety and avoidance in social situations. Individuals are asked to rate their discomfort/ anxiety felt in a range of situations on a 1-4 point Likert scale, and the extent to which they avoid that situation. | 44 (88-352) | Current | Cut offs suggested for subscales Discomfort/ Anxiety: 115 Avoidance: 105 | Good internal consistency $\alpha =: 0.94$. Good 4 week test, re-test reliability, $r=.83-.86$. | Items derived from clinical interviews with social phobia patients. Good discriminant validity between those with generalised social phobia, other anxiety disorders or general population. Moderate to high correlations found with other measures of social anxiety - SAD, FNE. |
| SPAI: Social Phobia and Anxiety Inventory (Turner, Beidel & Dancu, 1996) | Assesses specific symptoms, cognitions and behaviours across a wide range of potentially fear producing situations to measure social anxiety and fear. The frequency with which respondents experience symptoms is measured on a 0-6 Likert scale. | 45 (0-270) | Current | Peters (2000) recommends total cut-off of 88, whereas the original manual suggests 60 or higher as indicator of social anxiety. | Acceptable internal consistency for both full scale and subscales ($\alpha =: 0.83-.97$). 2 week test-retest reliability of .86 | Correlates highly with other measures of social anxiety and discriminates social phobia from other anxiety disorders (Cox et al, 1998). Validated with children, those 14 and above. |
| SPIN: Social Phobia Inventory (Connor et al, 2000) | This scale measures fear, avoidance and physiological symptoms in social phobia. Respondents indicate the extent to which each of the items has bothered them over the past week on a five point Likert type scale ranging from 0-4 | 17 (0-68) | The last 2 weeks | Cut off score 19, with scores of 40+ indicating severe social anxiety (Connor et al, 2000); Others have proposed more stringent cut-off of 30 (Moser et al, 2008) | The scale has been evidenced to have good reliability and internal consistency (Antony et al, 2006). | Strong convergent, discriminate and divergent validity have been found (Antony et al, 2000)(Moscovitch) This scale has also been validated for use with adolescents aged 12-17 and has been found sensitive to subclinical levels of social anxiety symptomatology (Ranta et al, 2007). |
| SPS: Social Phobia Scale (Mattick & Clarke, 1998) | Usually administered alongside the SIAS, this measure is used to detect performance anxiety in situations where the individual fears they are being observed and scrutinized by others. | 20 (0-80) | Current | Cut off score of 24 is used to differentiate social phobics from different control groups. | Excellent full scale reliability. However, discrepancies in underlying structure of the SPS, reliability of subscales remains unknown. | Good construct validity (Heimberg & Turk, 2002). Correlates highly with other measures of social anxiety. Good discriminant validity, having been shown to discriminate between clinical conditions, people with social phobia and without. |

1.3.5 Narrative synthesis of results and key findings

To address the primary aim of this review the findings of all included studies on the association between shame and social anxiety are outlined below. Table 1.2 provides an overview of each study. Our hypothesis was upheld as all twenty one studies identified significant positive associations through correlational analyses of psychometric measures or comparison of groups. One study reported an indirect effect for one subsample.

1.3.5.1. Studies of social anxiety and shame in clinical populations

Four studies explored the relationship between shame and social anxiety with clinical populations, each of which found large positive associations. One study specifically focused on individuals with SAD, identifying a positive relationship between internal shame and social anxiety ($r=.59$, $p<.0001$) in 88 patients with SAD seeking treatment from a local university (Zimmerman et al, 1998). Correlations appeared slightly larger in males than in females but this difference was not found to be significant. A study involving 127 mixed anxiety disorder patients from an intensive outpatient programme found a positive association between shame-proneness and social anxiety symptomology ($r=.52$, $p<.0012$) (Fergus et al, 2010). Although this study contained a subsample of individuals with SAD, results relate to symptomology across the sample as a whole. Additional multiple analyses found that only symptoms of SAD and generalised anxiety (GAD) continued to relate to shame-proneness when other types of anxiety, depression and guilt proneness were controlled for. Group differences in levels of external shame and shame of diagnoses was explored in 79 first episode psychosis patients, with high social anxiety (SIAS>36) or low social anxiety (Peters, 2000). Higher reports of shame were provided by those with higher social anxiety. In addition it was shown that shame remained a predictor of social anxiety (O.R.=1.1) when depression was controlled for (Birchwood et al, 2006). Finally, the primary relationship of interest was considered in patients with anorexia nervosa, bulimia nervosa, anxiety disorders and depression as diagnosed on the SCID, who were awaiting inpatient treatment (Grabhorn et al, 2006). Analyses found that internal shame explained the higher social anxiety scores in those with eating disorders, as group differences in social anxiety disappeared once shame was controlled for. It is important to note that mean responses on social anxiety measures in this sample were close to clinical levels, suggesting this was a specific area of difficulty.

1.3.5.2 Studies of social anxiety and shame in non-clinical samples

The largest proportion of studies recruited non-clinical samples. Although all studies again found significant positive relationships, there was a considerable range in the strength of identified associations. Five studies recruited predominantly female students, exploring associations through correlation and partial correlation analyses on a range of psychometric measures (Darvill et al, 1992; Field & Cartwright-Hatton, 2008; Gilbert et al, 1994; Gilbert & Miles, 2000; Lutwak & Ferrari, 1997). Strong associations were found between fear of negative evaluation to both shame-proneness/ internal shame ($r=.64$) and external shame ($r=.477$), with the association to internal shame slightly stronger (Gilbert & Miles, 2000). Similarly, a strong association between shame and its constituent elements with fear of negative evaluation ($r=.52$, $p<.001$) was identified (Gilbert et al, 1994). Shame-proneness was also found to be related to social avoidance/ distress ($r=.45$, $p<.01$), interaction anxiety ($r=.47$, $p<.01$) and fear of negative evaluation ($r=.32$, $p<.01$), with interaction anxiety and social distress/avoidance acting as significant predictors of shame-proneness (Lutwak & Ferrari, 1997). In addition, in a study exploring variance in the relationships of shame and guilt to neuroticism, psychoticism and personality constructs, researchers found a positive association between shame and social anxiety ($r=.26$, $p<0.05$) (Darvill et al, 1992). However, this study received the poorest methodological quality rating overall suggesting a need for caution when interpreting results. Finally, Field & Cartwright-Hatton (2008) identified a small direct positive relationship between shame and social anxiety ($r=.172$, $p<.001$) as part of their exploration of a larger model in which they proposed that trait rumination, obsessive beliefs, interpretation of intrusions, shame and worry may contribute to a common cognitive process which predicts social anxiety (Field & Cartwright-Hatton, 2008). The use of student volunteers in the above studies may have limited the range of social anxiety symptoms accessed, however reported means and standard deviations suggest a wide spectrum of symptoms, with Field & Cartwright-Hatton (2008) highlighting that in their large student sample ($n=559$), 39% of students fell within clinical levels.

Three studies with non-clinical populations were shame scale validation studies (Harder, Cutler & Rockart, 1992; Harder Rockart & Cutler, 1993 & Harder & Zalma, 1990). Each of these recruited undergraduate students to complete a range of shame and psychopathology measures. Evidence of a moderate direct relationship between shame and social anxiety was found in all studies using a range of measures; however it is important to note variability in strength of association across measures used (Table 1.2). In addition Harder, Cutler & Rockart (1992) demonstrated that the relationship between guilt and social anxiety diminished when shame was controlled for, suggesting that shame as opposed to guilt

is a central factor of social anxiety. Investigations in relation to gender led to a variety of findings with Harder, Rockart & Cutler reporting no differences while as Harder et al (1992) identified higher responses on the SCAAIR by women in comparison to men.

Two studies adopted a group comparison approach. Moscovitch et al (2012) explored differences in undergraduate students presenting with high social anxiety (HSA) and low social anxiety (LSA). Using a five point Likert scale of shame they found those with HSA overestimated the negative consequences of autobiographical and imagined social blunders. Secondly, those with HSA recalled these blunders as more shame inducing than those with LSA relative to objective raters. No validated measure of shame was used so direct group comparisons in relation to shame cannot be drawn. However, it is interesting to note that similarly to clinical samples those with higher SA also presented with increased levels of depression and that Asian students were over-represented in the HSA group. Cultural variation was further explored by Zhong et al (2008) who recruited two, age and gender matched, student samples, one Chinese and one American. It was found that shame mediated the relationship between personality and social anxiety in the Chinese sample but not the American sample. Only subscale correlations are reported, with internal shame and social anxiety subscales, with the exception of family shame, found to be positively associated ($r=.14-.6$). Regression analyses did not find a direct association between internal shame and social anxiety in the American sample, but identified an indirect relationship through personality. The authors concluded that shame may have a more important influence on social anxiety in Chinese samples.

In community based studies (Lanteigne et al, 2014; Matos et al, 2003; Shahar et al, 2014); internal shame was found to be slightly, but not significantly, more related to social anxiety ($r=.57$, $p<.01$) than external shame ($r=.43$, $p<.01$) in a large Portuguese community sample from staff institutions and private corporations (Matos et al, 2013). This study indicates that external shame was more closely related to measures of paranoid anxiety while as internal shame to measures of social anxiety. Shahar et al (2014) used sequential mediation modelling to propose that emotional abuse but not emotional neglect, predicted shame-proneness, which in turn predicted self-criticism which predicted social anxiety symptomology. This study identified a moderate to large direct association between shame and social anxiety ($r=.44$, $p<.01$), in a large community sample, which was upheld when depression was controlled for.

Finally, only one study recruited an adolescent population, those aged 12-17 (Lanteigne et al, 2014). This study found the largest association between internal shame and

social anxiety ($r=.81$, $p<.01$) across all studies, which may suggest that the measures used contained similar items or that results were impacted by the small sample size ($n=49$). A quasi-experimental design was adopted and adolescent girls were recorded during a social stress i.e. a spontaneous speech. Results indicate that girls with greater "experience" i.e. self-reported self-consciousness in comparison to "expression" i.e. observable safety behaviors, had higher reports of shame.

1.3.5.3 Studies comparing social anxiety and shame across clinical and non-clinical participants

Four studies opted to use a mix of clinical and non-clinical samples in their exploration of the relationship between shame and social anxiety. Clinical patients tended to have higher levels of shame overall while as there was considerable variation in levels of social anxiety reported by non-clinical participants. Psychology students and inpatient depressed patients were recruited by Gilbert (2000) with baseline analyses highlighting that the depressed group scored significantly higher on all measures of shame and social anxiety. Social anxiety symptomology measured by the SIAS was strongly associated with shame across a range of general and external shame measures (Table 1.2). As analyses were completed independently for both groups, differences in strength of association were not analysed. However, it was found that in both groups shame and depression were no longer related when controlling for social anxiety but in contrast social anxiety and shame continued to be related when controlling for depression. As part of a wider RCT, Hedman et al (2013) adopted a case control study design to investigate if persons with SAD differed from non-clinical controls on measures of shame. Results were inconsistent as shame was found to be elevated in the SAD group in comparison to the control replication sample, $t(1,82)=2.5$ $p<.02$, $d=.65$, who were matched by demographic characteristics, but not to the main control sample, $t(1,133)=.53$, $p<.96$, $d=0.03$, which was significantly younger with a higher rate of females. In addition, the researchers found positive moderate correlations, within SAD patients, between measures of shame and social anxiety ($r=.3-.39$, $p<.05$) which were maintained when depression was controlled for in comparisons using the SIAS ($r=.29$, $p<.005$) but not the LSAS-R ($r=.14$, $p>.05$). This study allowed for clearer comparisons to a "healthy" control group as controls were assessed on a measure of social anxiety and those with higher levels of SA removed. However the significance of results may have been impacted by the small size ($n=22$) of the replication sample.

The remaining studies explored differences across a range of clinical samples to each other and to non-clinical controls. Scheel et al (2014) compared responses on a new measure of SHAME (Scheel et al, 2014) between females with a range of clinical diagnoses; Borderline Personality Disorder (BPD), Attention Deficit Hyperactivity Disorder (ADHD), Social Anxiety Disorder (SAD), Major Depressive Disorder (MDD) and a community sample. Results showed that in comparison to community ($p \leq .001$, $d = .75$) and ADHD ($p \leq .001$, $d = 0.59$) groups, that those with SAD displayed significantly higher total shame and elevated bodily and cognitive subscale shame scores. It is possible that differences to the MDD group may not have reached significance due to this groups small sample size ($n = 17$). In addition, this study did not explore the role of co-variants in analyses. Finally, Michail & Birchwood (2013) compared levels of external shame-proneness in those with; SAD, first episode psychosis (FEP), combined SAD & FEP and healthy controls (Michail & Birchwood, 2013), finding that those with SAD (with or without psychosis) had significantly higher levels of shame ($F(1,135) = 123.1$, $p < 0.01$). Unfortunately, this study did not explore the role of depression but reported that 60-65% of participants with SAD were moderately depressed. Due to methodological discrepancies i.e. unavailability of necessary information, the effect size of this study could not be inferred. As with the previous study, involving individuals with psychosis, males were over-represented in the FEP groups (Birchwood et al, 2006; Michail & Birchwood, 2013).

1.3.5.4 Findings in relation to internal and external shame

Five of the above studies explicitly explored the relationship between external shame and social anxiety through their use of the OAS (Table 1.4). Three studies found large positive associations, in student samples (Gilbert, 2000; Gilbert & Miles, 2000), depressed patients (Gilbert, 2000) and the general community (Matos et al, 2013) while two further studies found significant differences in levels of external shame in those with SAD in comparison to those without, in primarily psychotic patients (Birchwood et al, 2000; Michail & Birchwood, 2013). It is more difficult to segregate findings on associations to internal shame specifically due to the majority of shame-proneness measures containing items relating to internal shame. However, the four studies which opted to use specific measures of internal shame i.e. ISS/ESS (Table 1.4), found the largest associations across all studies reviewed (Grabhorn et al, 2006; Lantaigne et al, 2014; Matos et al, 2013; Zimmerman et al, 2014). Only one study included measures of both internal and external shame (Matos et al, 2013.) This study found a slightly larger significant association between social anxiety and internal shame in

comparison to between social anxiety and external shame (Matos et al, 2013), but the strength of this difference was non-significant. Similarly, one study reported larger associations between a measure of shame-proneness/ internal shame and fear of negative evaluation in comparison to external shame (Gilbert & Miles, 2000), but the significance of this difference was not explored. In contrast Gilbert (2000) reported little variance across associations to measures of shame-proneness and external shame.

1.3.6 Synthesis of Findings

In terms of the strength of significant positive associations between shame and social anxiety, it can be seen that nine studies found large associations ($r > 0.5$; $d > 0.8$), eight studies found moderate to large associations ($r = .25-.5$; $d = .4-.7$), while as two studies found small to moderate associations ($r = < .3$; $d = < .4$), between shame and social anxiety (Cohen, 1992). Only one study found no direct association in one subsample of participants (Zhong et al, 2008). The above results indicate that studies involving clinical patients tended to find larger associations. Secondly, it appears that shame measures were distributed equally across findings, however it is noted that specified measures of shame i.e. those specifically measuring internal and external shame appeared more prevalent in studies which found stronger associations. Similarly, a distinct pattern was not identified across social anxiety measures but a trend is present for the finding of larger associations with use of more specified measures of social anxiety e.g. SIAS, in comparison to the use of subscales e.g. SCS (Table 1.5). It is worth highlighting that four of the five studies which incorporated the use of the FNE, found large associations suggesting that shame and fear of negative evaluation may in particular be strongly associated.

1.4 Discussion

This systematic review aimed to summarise research findings exploring whether there is an association between shame and social anxiety. Findings will now be reviewed in keeping with the initially outlined aims.

1.4.1 Primary Aim: The direct relationship between shame and social anxiety

Included studies support our original hypothesis that measures of shame are positively related to measures of social anxiety symptomology in both clinical and non-clinical populations. All twenty one included studies reported positive significant associations of varying strengths

across a heterogeneous group of participants e.g. those with social anxiety disorder, eating disorders, psychosis, community samples and student populations. The consistency in which this association was found across varying clinical groups, suggests that difficulties with shame and social anxiety may be an important and common comorbidity. In addition it is important to note the high levels of social anxiety which were identified in non-clinical populations. As described, one study, Zhong et al (2008), did not find a direct positive relationship between shame and social anxiety in one subsample, reporting that this relationship was mediated through personality. Although this may highlight an important area of future research, it is important that it is placed in the context of all other findings.

Despite evidence of a strong correlation, the cross-sectional nature of the majority of studies does not allow for consideration of cause and effect and does not allow for interpretation of the underlying relationships between shame and social anxiety. However, the above review suggests it is likely that similar processes arise in response to shame/ social anxiety which impacts on the other, with individuals engaging in a range of safety behaviours to avoid, conceal or withdraw from social situations in turn altering their social environment and the feedback they receive. It is worth highlighting the finding of particularly strong associations between shame and fear of negative evaluation in reviewed studies, which may be a common underlying process. It is proposed that shame acts as a signal that one is losing social rank or being rejected (Gilbert, 2002), which may precipitate the safety behaviours associated with social anxiety and begin a perpetual pattern of maintenance and increased symptomology.

1.4.2 Secondary Aims:

1.4.2.1 The association of social anxiety to internal and external shame

As described, measures which specifically addressed internal and external shame independently, found the strongest associations with social anxiety i.e. those which used the ISS, ESS and OAS (Tables 1.2 & 1.4). It appears likely that more general measures of shame e.g. TOSCA/ PFQ2, may contain items relating to both shame subtypes (Matos et al, 2013). In addition it is proposed that these measures contain some overlap with guilt, which was not controlled for in analyses across studies, with the exception of Fergus et al (2010). This suggests that the role of shame may have been minimised in findings using more general scales of shame-proneness.

Although no conclusions can be drawn, this review presents a slight trend towards increased association between internal shame and social anxiety in comparison to external

shame. This appears slightly in contrast to what would be theoretically expected. A key component of social anxiety models (Clark & Wells, 1995; Rapee & Heimberg, 1997) is the “observer self/ audience” i.e. the assumption that when a social phobic enters into a social situation that they perceive an image of what they believe others see, which conceptually appears similar to external shame i.e. what is going on in the mind of others about the self. However, it may be that relationships to internal and external shame alter across the spectrum of social anxiety such that those with higher levels of social anxiety make increased internal attributions, with a change of focus from seeing beliefs about the self through the eyes of others to beliefs being held by the self. On the other hand, increased failed efforts to alter attributions about the self, believed to be held by others, may lead to increased negative self-evaluation, suggesting that internal shame may develop from continued experience of external shame. This is in keeping with previous arguments that when internal shame is high, external shame is (Goss et al, 1994). Alternatively, this finding may be a consequence of negative self-evaluations being more commonly accessed in comparison to evaluations of what others believe about the self in the wider general public.

This trend is in contrast to the relationship identified between depression and shame with Kim et al (2011) highlighting that external shame was associated with larger effects than internal shame. This may be the result of the availability of a significantly larger pool of relevant studies (n=108) or may be a specific difference in relationships to shame across social anxiety and depression, highlighting the complexity of this emotion. However it is also possible that in this review larger associations with measures of internal shame, may be a direct result of the measures for social anxiety and internal shame containing similar items which focus on cognitive, behavioural and emotional symptoms.

1.4.2.2 Factors impacting the relationship between shame and social anxiety

Overall reviewed studies received high or adequate ratings for their consideration of demographic and clinical confounding variables (17/21) (Table 1.3). Due to the large amount of variation across covariates it is not possible to directly compare studies; however findings in relation to the most pertinent variables can be considered. Depression was the additional variable measured most widely in studies (13/21). On the whole, studies found that both social anxiety and depression impacted on shame but in independent ways, with the relationship between shame and social anxiety continuing to exist when depression was controlled for (Birchwood et al, 2006; Fergus et al, 2010; Gilbert et al, 2000; Hedman et al 2013; Moscovitch et al, 2010; Shahr et al, 2014). As expected those with social anxiety

disorder also tended to have higher rates of depression than control samples (Birchwood et al, 2003; Moscovitch et al, 2012). The finding of Gilbert (2000) that shame and depression were no longer related when controlling for social anxiety highlights a need for research exploring the three factors as it posits that shame may possibly operate through social anxiety in depressed patients (Gilbert, 2000). Another emotion frequently measured in studies was guilt (9/21) with findings in keeping with recent research which suggests that guilt is less pathogenic than shame (Tangney et al, 1992).

This review is limited in its ability to infer conclusions relating to gender due to 72.28% of the sample being female. Only one study directly explored variance in the relationship between shame and social anxiety across genders (Zimmerman et al, 2014), reporting a non-significant difference. This study was limited to those with social anxiety disorder and it is possible that gender differences exist across the full spectrum of difficulties. Although it is frequently documented that women tend to be more shame-prone than men (Tangney & Dearing, 2002; Woien, Ernst, Patock-Peckham & Nagoshi, 2003), this was not fully supported in this review as a number of studies found no sex differences on measures of shame (Harder & Zalma, 1990; Harder et al, 1993; Hedman et al, 2013; Lutwak & Ferrari, 1997; Matos et al, 2013). Harder et al (1992) found gender differences on the SCAAI-R measure only, indicating this finding may be dependent on use of specific measures.

Similarly, this review offers little insight into variability as a function of age due to all studies, with the exception of one, using adult participants. However, it is interesting to highlight that Hedman et al (2013) reported differences on shame outcomes across their two control groups as a result of age. If this is considered more widely, mean students responses on the TOSCA-S were 45.8(9.06) and 45(8.4) (Gilbert, 2000; Hedman et al, 2013) while as slightly older-aged community means are reported as 32.2(9.43) and 39.7 (Shahar et al, 2014; Hedman et al, 2013). Unfortunately, no additional study used multiple samples, so the hypothesis that younger populations may present with higher levels of shame could not be addressed. However, it is also worth noting that the largest association of all studies was found in the only study to focus on those under the age of eighteen (Lanteigne et al, 2014). This is in keeping with preliminary considerations that the changes in self-to-self relating, increased self-conscious awareness and a time dominated by social presentation, fitting in, being accepted and valued, experienced during adolescence are related to the development of shame (Gilbert & Irons, 2009).

Unfortunately, it is likely that a number of studies relating to the role of culture may have been excluded in the original systematic search due to the inclusion of studies published

in English only (Appendix E). Only one study found variance in the relationship between shame and social anxiety across cultures (Zhong et al, 2008), while as one study noted the overrepresentation of Asian students in the high social anxiety group (Moscovitch et al, 2012). These findings are in line with evidence that differences in autonomy and individualism may play a role in Asian cultures being more prone to both shame and social anxiety, with evidence that Asian cultures endorse shame in regulating moral behaviors (Li, Wang & Fischer, 2004).

1.4.2.3 Methodological factors affecting the relationship between shame and social anxiety

Although the majority of included studies were of good methodological quality (Table 1.3), it remains important to consider the possible impact of methodological factors. Firstly, inconsistencies in recruitment/sampling methods were identified. The majority of studies (15/21) contained a moderate degree of bias due to the use of convenience sampling alongside the provision of course credit or small financial awards, while as some studies (4/21) did not provide information on sampling methods. The choice of primarily convenience samples, impacted on the representativeness of samples as the use of volunteers, students and those currently accessing treatments lead to a range of demographic biases (Rosenthal & Rosnow, 1975). The finding that only 7.4% of the reviewed sample had a diagnosis of SAD may be a consequence of reduced tendencies for those with SAD to seek treatment (Grant, Hasin, Blanco et al, 2005). In general, studies contained adequate power and chose appropriate analyses (Table 1.3). However in studies with multiple groups discrepancies in quality arose due to the use of small and unequal samples (Hedman et al, 2013; Gilbert, 2000). Overall, studies provided minimal information in relation to variance and tests of normality with Scheel et al (2014) the only study providing information on corrections made to analyses due to unequal groups. Overall, there appears a need for greater clarity in relation to the use of multiple testing and post-hoc analyses so that information can be inferred with greater confidence.

As outlined above, the reliability and validity of outcome measures is of central importance in observational research. In this review, the diversity in measures used limited the potential for comparison and synthesis of findings across studies. Although there is substantial evidence for the use of measures of shame (Table 1.4), limitations also exist. The use of hypothetical scenario assessments relies on an individual's interpretation of the term shame and their ability to access these emotions and cognitions (Ferguson, Stegge, Eyre et al, 2000). In contrast adjective based scales, in which participants rate the extent to which shame

describes the self (e.g. PFQ2/ ASGS) separate shame from the context in which it arises, leading to problems with generalisability (Kim et al, 2011). Of significance, there is evidence that scenario/ situational based measures of shame may not be associated with self-report measures of generalised shame/adjective based measures (Field & Cartwright-Hatton, 2008; Kim et al, 2011), suggesting they may be assessing differing concepts. In addition it is essential to highlight similarities across measures of shame and social anxiety, with at times measures addressing similar processes e.g. fear of negative evaluation. This highlights how the choice of certain scales may impact on the strength of the association found, with it proposed that contextual measures of shame i.e. those using hypothetical scenarios are more similar to measures of social anxiety. This similarity across measures may indicate benefits of using multivariate analyses so as the relationships among variables can also be considered.

As evident in all areas of research there are limitations in the use of self-report screens as they rely on individuals being aware of their emotions, being willing to disclose their emotions and being able to distinguish them, which are assumptions not regularly met (Wylie, 1961). These may be heightened in those with social anxiety symptoms, due to fears of not being seen as desirable or acceptable. Finally, it is important to note that the majority of scales described (Table 1.4 & 1.5) were developed and validated with primarily college students who were mostly Caucasian. Therefore wider testing is needed to determine if these measures hold their validity in different age and cultural groups.

1.4.3 Additional Exploratory Findings:

1.4.3.1 The impact of psychological interventions

Two of the previously described studies provide preliminary evidence that treatments for social anxiety disorder may lead to reductions in shame (Hedman et al, 2013; Fergus et al, 2010). Fergus et al (2010) provided a variant of cognitive behavioural treatment including psycho-education and general cognitive therapy within an intensive outpatient anxiety programme. Results of this study indicate that changes in OCD, SAD and GAD symptoms were positively associated with changes in shame-proneness at final session ($r=.45$, $p<0.0012$). Similarly, Hedman et al (2013) explored the impact of a standardised intervention i.e. CBT for social anxiety (Clark, Ehlers, McManus et al, 2003) in those with SAD. Participants received either 16 weekly individual sessions or 17 group sessions. At one year post intervention it was found that those who had received treatment presented with significantly reduced social anxiety, depression and shame ($t(43)=2.62$, $p<.02$, $d=.44$). Significantly, it was found that baseline shame scores predicted better outcome in participants

receiving group treatment. Due to the small number of studies presented no conclusions can be drawn on the effectiveness of social anxiety interventions on reducing levels of shame, however the clinical relevance of these findings are considered in section 1.4.5.

1.4.4 Limitations of Review

A central limitation of the above review is the heterogeneous nature of studies, leading to difficulties in comparing findings and inferring results. This may have been caused by the decision to include studies in which the relationship between shame and social anxiety was not a primary hypothesis. Although this was believed necessary to provide a fuller picture of the current evidence base, it is acknowledged that it may have limited the detail and quality of research identified. Similarly, the vast number of psychometric measures alongside the number of comorbid factors and confounding variables addressed in studies, made it difficult to compare findings. However, this reflects limitations in the current evidence base and areas in need of further research. In addition, this review was limited by the current research base as included studies were predominantly cross sectional in design, restricting abilities to explore causation or to consider the course or development of difficulties. Therefore no insights into the mechanisms that link shame and social anxiety can be offered. Finally, the chosen inclusion/ exclusion criteria may have impacted on which studies were found as studies reporting significant results were more likely to be published in peer reviewed journals.

1.4.5 Clinical and Research Implications

This review presents evidence that shame is an important factor to consider not only in the treatment of social anxiety disorder but in a range of comorbid clinical presentations, in particular depression. Similarly, a need to consider the possible presence of social anxiety symptomology in those presenting with shame based difficulties, is outlined. There is a clear need for longitudinal research and prospective designs to explore not only the association between shame and social anxiety but to consider how this relationship develops and its direction i.e. at what level does shame impact on social anxiety or vice versa. An area which warrants exploration is the common processes of the two constructs to aid understanding in delineating their differences. In addition experimental research to explore how each construct affects the other i.e. changes in underlying processes such as self-focused attention or fear of negative evaluation may develop understanding of patterns of maintenance, vulnerability and resilience. Further exploration of specific relationships to internal and external shame, with

inclusion of measures of both in future studies, would allow for clearer characterisation of shame subtypes.

Although only considered by two studies within this review, findings that social anxiety interventions may be effective in reducing levels of shame are important. In particular if a benefit of SAD interventions is that they access shame, this could be extrapolated and considered in the treatment of other conditions e.g. depression. Furthermore the current review identified no study which explored the impact of shame based interventions on social anxiety symptoms, indicating a need for specific research exploring the possible benefits of such interventions. For example Compassion Focused Therapy (CFT) focuses on developing a warm, compassionate and accepting attitude towards the self and others to counteract difficulties with shame, self-criticism and isolation (Gilbert, 2014), with it proposed that this approach may also be of benefit to those with social anxiety symptomology. In addition, further research could clarify if shame should be a direct target of interventions and may provide information on screening procedures to identify those for whom a shame focused intervention may be beneficial. Conceptually, differences may arise in terms of habituation to shame and social anxiety symptoms, suggesting that adjuncts to treatment may be useful for some individuals.

In terms of methodological factors it is proposed there is a need for clearer recruitment methods identifying how and why specific populations are chosen. Similarly, researchers should consider the type of shame specific to their research question and chose appropriate psychometrics. In addition researches should prioritise the recruitment of more ethnically and demographically diverse samples in order to increase the external validity of conclusions and to expand on initial suggestions of cultural and demographic related variance. Finally, within the collation of findings within this review, the hypothesis was raised that younger individuals may present with higher levels of shame. Although only small samples underpin this hypothesis, there is considerable theoretical evidence in relation to adolescence and young adulthood being a peak time in the development of social anxiety. Therefore further research with adolescent and young samples would be helpful.

1.4.6 Conclusions

The above review provides support for the presence of a positive association between shame and social anxiety, independently of depression. Although the heterogeneity of available studies made it difficult to draw clear conclusions, the consistency with which this association was found across methods and samples suggests that shame should be considered

as part of a wider conceptualisation in the understanding and treatment of social anxiety. Future research in clarifying the direction and underlying processes of this relationship is warranted.

1.5. References

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Empirical Project Research Questions and Hypotheses

Principle Research Questions

1. Is there a relationship between self-compassion and social anxiety symptomology in an adolescent community sample?
2. Is self-compassion a unique predictor of social anxiety symptomology i.e. will self-compassion continue to predict social anxiety after controlling for depression and generalised anxiety?
3. Whether, and to what extent, would self-compassion be related to the key mechanisms known to be underlying social anxiety, including a) fears of negative evaluation, b) cognitive avoidance and c) self-focused attention?
4. Whether these mechanisms act as mediators in the relationship between self-compassion and social anxiety?

Empirical Study Hypotheses:

1. Social anxiety symptoms will be (negatively) correlated with self-compassion
2. The above correlation will remain significant after controlling for depression and generalised anxiety symptoms
3. Self-Compassion will be (negatively) associated with the cognitive maintaining factors of social anxiety 1) fear of negative evaluation, 2) cognitive avoidance and 3) self-focused attention
4. The relationship between self-compassion and social anxiety will be mediated by the cognitive maintaining factors of social anxiety

Journal Article 2

An exploration of the relationship between self-compassion and social anxiety in community based adolescents

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Abstract

Purpose: Preliminary evidence suggests that low self-compassion may contribute to adult social anxiety; however this relationship is yet to be explored in adolescents.

Method: 316 community-based adolescents completed 7 validated psychometric questionnaires assessing levels of: self-compassion; social anxiety; fear of negative evaluation; self-focused attention; cognitive avoidance; depression and generalised anxiety.

Results: Self-compassion was found to be inversely related to social anxiety, $r = -.551$, $p < .0001$, 95%CI[-.62, .48], with fear of negative evaluation and cognitive avoidance, but not self-focused attention, partially mediating this relationship. Self-compassion predicted additional variance in social anxiety beyond depression and generalised anxiety.

Conclusion: Results suggest that the degree to which adolescents are self-compassionate at times of social distress or when faced with social situations may be an important factor in the development, maintenance and treatment of social anxiety. The cross-sectional design of this study does not allow for causation to be inferred but suggests that further investigation is warranted.

Key words: self-compassion; social anxiety; adolescence; fear of negative evaluation

Highlights

- This was the first study to compare the relationship between self-compassion and social anxiety in a community based adolescent sample.
- A negative relationship of large effect size was found between self-compassion and social anxiety symptomology.
- Both fear of negative evaluation (FNE) and cognitive avoidance (CAQ) partially mediated this relationship.
- Self-compassion predicted additional variance in social anxiety beyond depression and generalised anxiety.
- Further research should adopt longitudinal and experimental designs.

2.1 Introduction

2.1.1. *Self-Compassion*

An emerging concept in the field of clinical psychology is self-compassion i.e. compassion that we can direct towards ourselves (Gilbert, 2014). Neff (2003a) proposed that self-compassion consists of three central components. The first component is self-kindness i.e. being kind and understanding towards oneself in instances of pain or failure in contrast to being harshly self-critical or self-judgmental. The second is common humanity i.e. perceiving one's suffering as part of the larger shared human experience rather than seeing it as isolating. Finally, the third component is mindfulness i.e. holding painful thoughts and feelings in mindful awareness rather than over-identifying with them. It is proposed that when these components interact that an individual can experience a more unified sense of self, allowing for an adaptive way of relating to the self and resilience when faced with difficult circumstances and perceived personal inadequacies (Neff, 2003a).

Self-compassion has recently been identified as an important construct in mental health with numerous studies exploring the links between self-compassion and psychopathology in adults. MacBeth & Gumley (2012) collated studies on the relationships between self-compassion and: depression, anxiety and stress in a recent meta-analysis. This meta-analysis found that self-compassion is associated with psychopathology, identifying a large effect size, but that this relationship is non-specific to a given set of symptoms. Associations were found to be strong regardless of clinical status, gender or age. Furthermore, a recent systematic review, of fourteen studies, provided initial support that Compassion Focused Therapy (CFT) interventions are more effective than no treatment or as effective as treatment as usual, in treating psychological disorders (Leaviss & Uttley, 2014), with interventions found to be particularly effective for those with high self-criticism.

The relationship between self-compassion and psychopathology in adolescents has been more sparsely studied. Neff & McGehee (2010) was the first study to consider self-compassion within an adolescent sample, exploring the relationship between self-compassion and psychological resilience across adolescents (aged 14-17) and young adults (19-24). This study found similar associations to those identified in the adult literature with self-compassion strongly associated with low depression and anxiety and high social connectedness (Neff & McGehee, 2010). Additionally this study demonstrated that self-compassion partially mediates the link between family/ cognitive factors and psychological well-being while secure attachment was found to be positively associated with self-

compassion (Neff & McGehee, 2010). Since this time, further research with adolescents has demonstrated links between self-compassion and; well-being (Bluth & Bandon, 2014a; 2014b); mental health (Marshall et al, 2015) and trauma related psychopathology (Zeller, Yuval, Nitzan-Assayag & Bernstein, 2014) whilst a subset of studies focused on identifying the negative impact of victimization (Jativa & Cerezo, 2014) and childhood maltreatment (Pace et al, 2013; Tanaka et al, 2011; Vettese, Dyer, Li & Wekerle, 2011) on self-compassion and emotional regulation.

2.1.2 Social Anxiety

One area of psychopathology in which self-compassion has not been widely explored is social anxiety. Social Anxiety Disorder (SAD), often referred to as Social Phobia, is characterised by a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to the possible scrutiny of others (*see DSM-V for full criteria*). The onset of SAD has been found to precede the development of other psychological disorders with a mean onset of 15.5 years (Schneier, Johnson, Hornig, Liebowitz & Weissmann, 1992). Adolescents with social anxiety have been found to have poorer social networks, underachieve at school and have poorer adjustment outcomes (Masia-Warner, Storch, Fisher & Klein, 2003). Additionally, it is recognised that SAD increases vulnerability to depression, suicidal ideation, other anxiety disorders and alcohol and drug abuse (Albano, DiBartolo, Heimberg & Barlow, 1995; Beidel, 1998; Turk et al, 1998). Although a substantial number of adolescents may recover before reaching adulthood (Pine, Cohen, Gurley, Brook & Ma, 1998), if it persists, SAD is thought to be a chronic unremitting disorder with the lowest probability of recovery among anxiety disorders (Bruce et al, 2005).

Recent studies have verified that Cognitive Behavioural Therapy (CBT) is an effective treatment for children and adolescents with SAD; identifying reductions in symptomology of a moderate to large effect size (Beidel, Turner & Morris, 2000; Segool & Carlson, 2008). However, in a study exploring long term outcomes after CBT it was found that, although initially responsive to CBT, children with social anxiety symptoms presented with a distinct pattern of outcome (Kerns, Read, Klugman & Kendall, 2013) i.e. children with any degree of social anxiety (including subclinical levels) reported higher levels of general anxiety both before and after 16 weeks of CBT than those without social anxiety. Additionally, this group maintained less improvement after seven years in comparison to those with non-social anxiety disorders at pre-treatment. This study concluded that children who present with social anxiety symptomology may require an enhanced or extended

treatment to maintain their gains into young adulthood, whether or not social anxiety is considered their principle childhood difficulty. This is in keeping with previous studies where adolescents with principle diagnoses of social phobia were found to retain their diagnoses post-treatment (Crawley et al, 2008, Herbert et al, 2009). The above alongside national guidelines (NICE, 2013), indicates that social anxiety is an area in need of further research with possible add-ons or alternatives to CBT a possible worthwhile area of consideration.

2.1.3. Links between Self-Compassion and Social Anxiety

Due to research indicating that self-compassion may act as a buffer to psychological distress (see section 2.1.1), it is possible that the benefits of self-compassion may benefit those with social anxiety. However, to date only one study, that of Werner et al (2012), has directly explored this relationship, whilst Potter, Yar, Francis & Schuster (2014) found self-compassion and social anxiety to be related as an exploratory finding in a wider mediation model (Potter et al, 2014).

In the study of Werner et al (2012), 72 adults with a diagnosis of generalised SAD were compared to 40 healthy controls on a range of self-report measures. It was found that those with SAD reported significantly lower levels of self-compassion in comparison to healthy controls and that this difference remained significant when depression and general anxiety were controlled for. However, correlational analysis found that greater severity of social anxiety was not significantly associated with the total score on the Self-Compassion Scale but that self-compassion was negatively correlated with both fear of negative and positive evaluation. The study concluded that self-compassion appeared to be more tightly linked to cognitive aspects of social anxiety, providing preliminary evidence that self-compassion may play a key role in social anxiety but highlighting possible variants in the pathways of this relationship.

Although only minimal research has explored the direct relationship between self-compassion and social anxiety, to date research suggests that self-compassion may be related to a number of the factors and processes known to be associated with social anxiety. Werner et al (2012) found that individuals with SAD reported higher levels of *fear of negative evaluation*, that is they were more likely to believe that everyone will notice them and judge them negatively. It is recognised that these fears tend to be based on previous past experiences and core beliefs (Clark & Wells, 1995) and can impact on an individuals' day to day coping. As negative evaluation is a realistic possibility in everyday life, it may be that the component of common humanity in the concept of self-compassion (i.e. the ability to

recognise that people make mistakes and that being imperfect is part of a shared human experience) aids an individual's ability to cope. The possible benefits of self-compassion, were explored by Leary, Tate, Adams, Allen & Hancock (2007) using a variety of experimental designs in which it was found that individuals with higher levels of self-compassion were better able to keep negative situations in perspective and achieved more accurate self-evaluations, indicating that self-compassion is an important coping style when faced with negative interpersonal events. Similarly, Neff (2003a) found that those high in self-compassion were less likely to ruminate about past failings or to become overwhelmed by feelings of inadequacy, suggesting that they may be less likely to develop or be more able to cope with fears of negative evaluation.

Secondly, it has been identified that individuals with SAD engage in considerably more *self-focused attention*, in which they monitor their somatic, cognitive and internal processes in an attempt to eliminate the risk of negative social evaluation (Spurr & Stopa, 2002). This process reduces attention to external stimuli, resulting in a disconnection with the environment and a reliance on internal information to infer how one appears (Rapee & Heimberg, 1997) which tends to lead to self-critical ruminations which are perceived as a failing of the self and are reinforced by a lack of access to external disconfirmatory information (Cox, Fleet & Stein, 2004; Padesky, 1997). Neff and Vonk (2009) in a large questionnaire based study (n=2187), found that those with higher self-compassion also engaged in less self-focused processes, concluding that self-compassion was a stronger predictor of lower social comparison, public self-consciousness and self-rumination than self-esteem.

Finally, high levels of isolation and guilt can be experienced by those with social anxiety, due to the development of a reliance on *cognitive and behavioural avoidance* strategies (McManus, Sacadura & Clark, 2008; Rao et al, 2007). However it may be that the presence of self-compassion could alter this relationship as it has been evidenced that increased self-compassion when facing difficulties is associated with a reduced need to engage in cognitive avoidance. For example, Neff, Kirkpatrick & Rude (2007) found that those with high self-compassion experienced less self-evaluation anxiety in comparison to those with low self-compassion when completing a mock interview task. Importantly, when controlling for general anxiety this study noted a negative relationship between self-compassion and thought suppression. Similarly, Krieger, Read, Klugman & Kendall (2013) and Thompson & Waltz (2008) identified that those with low levels of self-compassion tend to function in a more avoiding manner.

Taken together, these studies suggest that higher self-compassion is related to abilities to keep information in perspective, accurate self-evaluations, reduced cognitive avoidance and reduced self-focused attention, known maintenance components of social anxiety (Clark & Wells, 1995; Heimberg, Brozovich & Rapee, 2010; Hofmann, 2007; Ranta et al, 2014; Rapee & Heimberg, 1997). Therefore it can be hypothesised that low self-compassion may play a role in developing and / or maintaining social anxiety and that the processes outlined above may mediate the relationship between these two constructs.

2.1.4 The Present Study

The above research suggests that a relationship between self-compassion and social anxiety is likely, such that the way in which an individual relates to themselves when faced with actual or possible social situations may be related to their experience of social anxiety symptomology. However it appears that a more specific pathway of effects and possible mediating roles of cognitive factors have not been systematically examined. Similarly, this relationship is yet to have been studied with an adolescent population. This following study therefore aims to address the following hypotheses:

1. Social anxiety symptoms will be (negatively) correlated with self-compassion in a community based adolescent sample
2. The above correlation will remain significant after controlling for depression and generalised anxiety symptoms
3. Self-compassion will be (negatively) associated with the cognitive maintaining factors of social anxiety 1) fear of negative evaluation, 2) cognitive avoidance and 3) self-focused attention
4. The relationship between self-compassion and social anxiety will be mediated by the cognitive maintaining factors of social anxiety

2.2 Methodology

2.2.1 Design

The study adopted an exploratory cross sectional quantitative design. Community-based adolescents completed a range of standardised questionnaires.

2.2.2 Participants

414 secondary school students took part in the study. Missing data procedures, outlined below (see 2.2.5.2), resulted in 98 participants being excluded from analyses. Demographic details for the remaining participants (n=316), are summarised in Table 2.1. Due to the exploratory nature of the study there were no specific inclusion or exclusion criteria, out with being aged 14-18 and self-reporting as fluent in English.

Table 2.1. Demographic details of primary sample (n = 316)

| <i>Variable</i> | <i>Category</i> | <i>No. Participants (n=316)</i> | |
|--|-------------------|---------------------------------|---------|
| <i>Gender</i> | Male | 170 | (53.8%) |
| | Female | 143 | (45.3%) |
| | Missing Data | 3 | (0.9%) |
| <i>Age</i> | 14 | 155 | (49.1%) |
| | 15 | 93 | (29.4%) |
| | 16 | 52 | (16.5%) |
| | 17 | 15 | (4.7%) |
| | Missing Data | 1 | (0.3%) |
| | Mean (stand dev.) | 14.77(.89) | |
| <i>Ethnicity</i> | White British | 291 | (92.1%) |
| | White Other | 11 | (3.5%) |
| | Asian British | 4 | (1.3%) |
| | Asian Other | 2 | (0.6%) |
| | Black British | 5 | (1.6%) |
| | Black Other | 0 | |
| | Other | 0 | |
| | Missing Data | 3 | (0.9%) |
| <i>Previous professional support to help with emotions</i> | Yes | 33 | (10.4%) |
| | No | 278 | (88%) |
| | Missing | 5 | (1.6%) |

2.2.3 Measures

All measures were self-report in design and age appropriate. Permissions for the use of questionnaires were received prior to administration (Appendix F).

Demographics Questionnaire – Adolescents completed a short questionnaire in relation to their demographic details i.e. age, gender, ethnicity, fluency in English and whether they had received professional support to help with their emotions (Appendix G).

SCS: Self-Compassion Scale (Neff, 2003b) is a 26 item self-report measure consisting of six subscales: self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identification. Individuals respond to the scale on a five point Likert scale from 1 (almost never) to 5 (almost always) of how often they behave in the stated manner. Confirmatory factor analyses have demonstrated that the six subscales can be considered independently or that a total mean self-compassion score can be utilised by reverse scoring the negative subscale items (Self-Judgement, Isolation, Over-Identification). Higher scores

represent greater self-compassion. Research undertaken by the scales author indicates strong concurrent, convergent and discriminant validity, as well as good test-retest reliability (Neff, 2003b, Neff et al, 2007). The scale has been validated for use with those aged fourteen and older (Neff & McGehee, 2010).

SPIN: The Social Phobia Inventory (Connor et al, 2000) is a 17 item self-report questionnaire which measures fear, avoidance and physiological symptoms in social phobia. Responses are scored from 0 to 4. A score of 19 or above indicates difficulties with social phobia while scores of 40+ indicate severe social anxiety. This scale has been validated for use with adolescents aged 12-17 and has been found sensitive to subclinical levels of social anxiety symptomology (Ranta et al, 2007). The scale has been evidenced to have good reliability, discriminative validity and internal consistency (Antony et al, 2006).

FNE: Fear of Negative Evaluation was measured using the FNE subscale of the Social Anxiety Scale for Adolescents (La Greca, 1998). This subscale consists of 8 self-report items. Adolescents rate their responses on a scale from 1 (Not at all) to 5 (All the time). The full scale was designed to assess adolescents' feelings of social anxiety in the context of peer relationships. Individual subscales have been found to have good reliability, internal consistency and good test-retest validity when used with those aged 13-18 (Inderbitzen-Nolan & Walters, 2000; Storch et al, 2004).

CAQ: Cognitive Avoidance Questionnaire (Gosselin et al, 2002; Sexton & Dugas, 2008) is a 25 item questionnaire assessing the use of five cognitive avoidance strategies: thought substitution, transformation of images into verbal thoughts, distraction, avoidance of stimuli that trigger unpleasant thoughts, and thought suppression. Adolescents respond on a five point Likert scale 1 (not at all typical) to 5 (completely typical), with higher scores indicating a greater tendency to cognitively avoid. When used in adolescent populations, aged 12-19, this measure demonstrated good internal consistency and satisfactory validity (Gosselin et al, 2002).

Self-Focused Attention (SFA) was measured using both the private (PrSC) and public (PuSC) subscales of the Self-Consciousness Scales (Fenigstein, Scheier & Buss, 1975). Private self-consciousness is the tendency to pay attention to private internal aspects of the self whereas public self-consciousness is the tendency to be aware of and concerned about aspects of the self that others can perceive. Adolescents are asked to rate how well each statement describes them on a scale 0 (extremely uncharacteristic) to 4 (extremely characteristic). These subscales are the most widely adopted measures of self-focused attention (Mor & Winquist, 2002). Research has shown reliability and both construct and

discriminant validity for the total and subscale scores with those aged 12 and older (Smith & Greenberg, 1981; Turner, Scheier, Carver & Ickes, 1978).

The *Generalised Anxiety* subscale of the Screen for Child Anxiety Related Emotional Disorders – Child Version: SCARED (Birmaher et al, 1995) which consists of 9 items was administered as a measure of generalised anxiety symptomology. Adolescents respond on a 3 point Likert scale 0 (not true or hardly ever true) - 2 (very true or often true). Both subscales and total score are validated for use with those aged 8 - 18 (Isolan et al, 2011; Monga et al, 2000; Muris, Schmidt & Merckelbach, 2000) and were found reliable in terms of construct validity, internal consistency and test-retest reliability (Essau, Muris & Ederer, 2002; Hale-III, Raaijmakers, Muris & Meeus, 2005).

S-MFQ: Short Mood and Feeling Questionnaire (Angold, Costello & Messer, 1995) is a 13 item self-report measure with a common response format: 0 (never), 1 (sometimes) or 2 (always). The scale was designed for the rapid evaluation of depressive symptomology with higher scores indicating increased depressive symptomology. There are no set cut-offs for clinical diagnosis, however in original validations a threshold of 8 was adopted (Angold et al, 1998). In non-clinical populations a cut off of 5 has been used (Thepar & McGuffin, 1998). This measure has been validated for use with those aged 6-19 (Wood, Kroll, Moore & Harrington, 1995) and has demonstrated good criterion validity and reliability (Sharp, Goodyer & Croudace, 2006).

2.2.4 Procedures

2.2.4.1 Recruitment

On receipt of ethical approval (see section 2.2.4.4) (Appendix H), the primary researcher wrote to a number of schools providing details of; the project, the specific role and expectations of student involvement, alongside copies of letters of ethical authorisation (Appendix I). Four schools expressed an interest in partaking and meetings were arranged in which to plan administration procedures. Although the project was initially designed in an online format, each school opted to complete paper and pen measures. Following this, the primary researcher attended a number of school assemblies/ seminars to provide a brief verbal explanation of the study (Appendix J), information sheets (Appendices K; L) and opt-out consent forms (Appendix M) to potential participants. All students were advised of the times in which the project would be conducted within the school and reminded that the study was entirely voluntary. Adolescents were encouraged to review the information sheet and to discuss the content with their parents / guardian.

2.2.4.2 *Data Collection*

Eleven data collection sessions were run in total. These were conducted in school premises in either school halls, classrooms or computer labs. Sessions ranged in size from 15 to 50 participants with the primary researcher supported by a minimum of two teachers for each session. In order to ensure confidentiality adolescents were seated with a minimum of one desk space between one another. Each participant completed a questionnaire pack consisting of the self-report questionnaires, described in Section 2.2.3 (Appendix N). To ensure anonymity consent forms and questionnaire packs were marked with a unique code identifier. A class block i.e. 45-50 minutes, was provided for completion of the study with questionnaires taking 15-25 minutes on average. On completion, adolescents were asked to complete an optional feedback form (Appendix O), a short debrief was conducted (Appendix P) and each student was provided with a debrief sheet and thanked for their participation (Appendix Q). On completion of the study a raffle was conducted and one student from each school won an Amazon voucher.

2.2.4.3. *Informed Consent*

To ensure informed consent all participants were asked to sign a consent form prior to taking part in the study (Appendix R). In addition, for participants under the age of 16 all parents were provided with a “passive” consent form, in which they needed to sign if they did not wish for their children to take part (David, Edwards & Alldred, 2001; Esbensen et al, 1996). Parental consent forms were hosted on school websites and provided to each child at the introductory talk (Appendix M). This consent procedure was approved by University Ethics and Education Resources.

2.2.4.4 *Ethical Consideration*

Ethical approval was granted by the Research Ethics Committee at University of Edinburgh, School of Health in Social Science and from two local authority Educational Departments i.e. North Lanarkshire Council and South Lanarkshire Council where recruitment took place. All information was stored securely in the researcher’s clinical base within NHS buildings and on NHS computers.

2.2.5 *Statistical Analyses*

All statistical analyses were conducted using IBM SPSS Statistics Version 21. The computational and modelling tool PROCESS (Hayes, 2013) for SPSS was used for mediation analyses.

2.2.5.1 Sample Size and Power Calculations

Power analyses were conducted to guide recruitment (Appendix S). As the relationship between self-compassion and social anxiety had not previously been investigated in this population, a medium effect size was assumed (conservatively), based on previous studies between self-compassion and general psychopathology in adults ($r = -0.54$; 95% CI $[-0.57, 0.51]$) (MacBeth & Gumley, 2012) and adolescents (r 's ranging from -0.43 to -0.73) (Neff & McGehee, 2010; Vettese et al, 2011). Similarly a medium effect size has been assumed for exploration of the underlying processes of this relationship, in keeping with findings reported in Section 2.1.1. It was determined that in order to have .8 power to detect a medium effect size at an alpha level of .05 with 9 independent variables, a sample of 118 was required (G*Power Version 3.1.5). In addition Fritz & MacKinnon (2007)'s equations for determining minimum sample size for mediation models was consulted, which proposed a sample size of 71 if adopting a power level of 0.8 and a medium effect size for all paths. A minimum sample size of 120 was therefore deemed adequate to address the primary research hypotheses. Data collection was maximised in the timeframe provided in order to allow for exploratory analysis of the subsidiary research questions and to provide contingency for missing data and outliers.

2.2.5.2. Missing Data

A number of steps were taken to address missing data. Firstly, a range of inferential statistics were carried out to identify differences across participants with missing data ($n=137$), compared to those without ($n=277$) (Appendix T). Chi Square tests (χ^2) identified no group difference in terms of gender ($\chi^2(1) = 3.167, p < .075$) or history of seeking professional support for emotional difficulties ($\chi^2(1) = .000, p < .995$). Similarly, independent sample t-tests identified no significant age difference ($t(411) = -1.817, p < .07$) or difference on primary psychometric scores of interest i.e. self-compassion total score ($t(291) = .767, p < .427, CI: [-0.25, 0.45]$) and social anxiety ($t(392) = .202, p < .84, CI: [-3.07, 3.7]$). In addition, Little's Missing Completely at Random (MCAR) Test was found to be non-significant ($\chi^2(11057) = 11217.731, p < .14$) (Little, 1988). As data was found to be MCAR, missing data was dealt with in two ways (Hawthorne & Elliott, 2005; Schafer & Graham, 2002; Shrive, Stuart, Quan & Ghali, 2006). For all participants who had $< 10\%$ items missing with missing data not greater than 10% for any one scale, individual mean substitution was adopted i.e. the imputed value was calculated from the mean of the available items of that subscale/ full scale for the given respondent (Appendix U). All participants ($n=98$) who had $> 10\%$ missing data

or 10% missing data from either the Self-Compassion Scale (SCS) or Social Phobia Inventory (SPIN) were removed through listwise deletion. As no significant differences arose in mean values prior and post imputation, it was deemed appropriate to include imputed figures in all further analyses.

2.2.5.3. *Tests of Reliability*

Chronbach's α tests of internal consistency were run for key variables and subscales (Table 2.2). Values above .7 are generally considered to reflect adequate levels of reliability, while as values above .8 reflect good reliability (Field, 2013; Vogt, 2005). Within this study reliability ranged from .64 to .95, with both scales relating to the primary hypothesis demonstrating good internal consistency. During administration, a technical error resulted in Q26 of the Self-Compassion Scale (Neff, 2003) not being administered. However, as can be seen in Table 2.2 in Section 2.3.1, both the overall scale and self-kindness subscale, of which Q26 is an item, maintained their reliability levels, with Chronbach's $\alpha > 0.7$. In addition, the scale author was contacted for guidance on how to manage resultant missing data as outlined in Section 2.2.5.2.

2.2.5.4. *Data Analysis*

Data was initially screened to ensure that assumptions of further analyses were met. Histograms and boxplots were examined to ensure no outliers were present while as the assumptions of linearity and homoscedasticity were found to be met through examination of scatterplots. Pearson correlations were calculated between all predictor variables of the planned mediation analysis to test for multicollinearity. No extremely high correlations i.e. > 0.9 , were identified, suggesting that all items were suitable for inclusion in further analyses (Field, 2013; Preacher & Hayes, 2008). Tests of normality showed that data was positively skewed across all measures and their subscales. To account for the non-normal distribution of data, the bootstrapping method, with $n=2000$ bootstrap resamples, was applied for further analyses with the exception of mediation analysis where $n=5000$ bootstrap samples was chosen (Hayes, 2013). All 95% confidence intervals reported in this study were (BCa) bias corrected and accelerated (Efron, 1987; Field, 2013). Point estimates of indirect effects were considered significant when zero did not fall between identified confidence intervals. Statistical significance was defined as $p < 0.05$, two tailed. A lower level of p value (< 0.0005) was adopted to control for type 1 errors arising from multiple analyses (Field, 2013).

Pearson product moment correlations with bootstrapping were used to explore the relationship between self-compassion and social anxiety and to explore the relationships between subscales and possible mediators i.e. fear of negative evaluation (FNE), cognitive avoidance (CAQ) and self-focused attention (SFA). In addition independent t-tests were used to explore group differences in those who responded low (<19) vs. high (>30) on measures of social anxiety, in keeping with cut-offs proposed by Moser et al (2005). Following this, hierarchical regressions were performed to explore if self-compassion predicts unique variance, beyond depression and generalised anxiety, in social anxiety. Finally, a product of coefficients mediation linked with bootstrapping analysis (Preacher & Hayes, 2008; Hayes, 2009) was used to explore possible mediating relationships. Self-compassion was entered as the independent variable, social anxiety symptomology as the dependent variable while measures of a) fear of negative evaluation, b) cognitive avoidance and two measures of self-focused attention: c) private self-consciousness scale and d) public self-consciousness scale, were entered as the four potential mediators. Measures of depression and generalised anxiety were entered as covariates due to previous research demonstrating both variables to be related to self-compassion and social anxiety (Hoge et al, 2013; Raes, 2010; & Roelofs et al., 2008). This mediation method has been chosen as it conducts all possible pairwise contrasts between indirect effects which will allow for comparison of the roles of each mediator.

2.3 Results

2.3.1 Descriptive Data

Table 2.2 shows the means and standard deviations for key variables. A wide range of scores were identified on measures of social anxiety (SPIN) with 46.2% of participants scoring below clinical levels (0-19), 22.2% scoring in the mild range (20-30), 19.6% in the moderate range (31-40) and 12% in the severe category (above 40) (Conner et al, 2000).

Independent sample t-tests were run to explore the role of demographic variables. Participant responses were found to vary significantly, across gender, on all measures (Table 2.3; *Full Table: Appendix V*). In terms of previous support, 278 adolescents had not received support in contrast to 33 who had. Further comparisons between these groups were not undertaken as the small sample size of the latter group did not support this. Finally, age was not found to be significantly correlated to either self-compassion ($r=.025$, $p<.743$, $CI[-0.12, 0.17]$) or social anxiety ($r=.067$, $p<.388$, $CI[-0.09, 0.23]$).

Table 2.2. Descriptive Statistics and Reliability output for Key Variables

| Variable | Mean | SD | Chronbach's α |
|--|-------|-------|----------------------|
| Self- Compassion (SCS)* | 2.95 | .63 | .878 |
| <i>Self-Kindness</i> | 2.49 | .84 | .706 |
| <i>Self-Judgement</i> | 2.87 | .99 | .823 |
| <i>Common Humanity</i> | 2.77 | .89 | .730 |
| <i>Isolation</i> | 2.85 | 1.02 | .775 |
| <i>Mindfulness</i> | 2.8 | .8 | .637 |
| <i>OverIdentified</i> | 2.78 | 1.02 | .765 |
| Social Anxiety (SPIN)* | 22.22 | 13.84 | .915 |
| Fear of Negative Evaluation (FNE subscale of SAS-A) | 20.76 | 8.98 | .935 |
| Cognitive Avoidance (CAQ) | 57.46 | 21.66 | .953 |
| Self-Focused Attention (SCS2) | 34.11 | 12.97 | .866 |
| <i>Private Self- Consciousness (PrSC)</i> | 19.34 | 6.79 | .699 |
| <i>Public Self-Consciousness (PuSC)</i> | 14.77 | 7.39 | .871 |
| Depression (MFQ) | 6.66 | 6.68 | .924 |
| Generalised Anxiety (GAD subscale of SCARED) | 8.21 | 5.5 | .909 |

*calculations based on n=316, all other analyses based on n=294 (lowered as a result of missing data).

Table 2.3. Independent t-tests exploring variance across gender

| | Male (n=158) | | Female (n=134) | | t | df | p | 95% C.I. | |
|------------------------------------|-----------------|-------|-------------------|-------|--------------------|---------------------|--------|----------|-------|
| | Mean | SD | Mean | SD | | | | Lower | Upper |
| <i>Self-Compassion</i> | 3.11 | .56 | 2.77 | .68 | 4.593 ^a | 259.2 ^a | p<.001 | 0.19 | 0.48 |
| <i>Social Anxiety</i> | 18 | 12.88 | 26.73 | 13.49 | -5.715 | 290 | p<.001 | -11.88 | -5.79 |
| <i>Fear of Negative Evaluation</i> | 17.1 | 7.8 | 25 | 8.3 | -8.387 | 290 | p<.001 | -9.77 | -6.06 |
| <i>Cognitive Avoidance</i> | 51.95 | 20.05 | 64.44 | 21.46 | -5.411 | 290 | p<.001 | -17.92 | -8.36 |
| <i>Private Self Consciousness</i> | 18.19 | 6.41 | 20.69 | 7.06 | -3.167 | 290 | p<.001 | -4.05 | -0.95 |
| <i>Public Self Consciousness</i> | 12.14 | 7.03 | 17.93 | 6.55 | -7.236 | 290 | p<.001 | -7.36 | -4.21 |
| <i>Depression</i> | 5.08 | 50.91 | 8.47 | 7.13 | -4.43 ^a | 258.89 ^a | p<.001 | -4.96 | -1.91 |
| <i>Generalised Anxiety</i> | 6.15 | 4.85 | 10.63 | 5.2 | -7.537 | 290 | p<.001 | -5.6 | -3.28 |

95% bias corrected and accelerated confidence intervals, based on 2000 bootstrap samples

^aLevene test significant

2.3.2 Correlational Analysis

Pearson Product Moment Correlations identified a significant negative correlation between self-compassion and social anxiety, $r = -.551$, $p < .0001$, 95% CI[-0.62, -0.48]. This finding was further explored by comparing self-compassion across participants who scored *Low* (SPIN<19) and those who scored *High* (SPIN>30 i.e. within the moderate or severe range) on measures of social anxiety. SCS mean scores and standard deviations significantly differed between those with *Low* social anxiety, 3.23(0.55), in contrast to those with *High* social anxiety, 2.58(0.55), on independent sample t-tests, $t(244)=9.17$, $p < .0001$, 95% CI [0.5, 0.81].

Table 2.4 presents the correlations among self-compassion, the self-compassion subscales, social anxiety and the proposed mediator variables. All variables were significantly correlated in the predicted directions. Self-compassion had large significant

Table 2.4. Pearson's correlation coefficients for correlations of key variables, proposed mediators and subscales.

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------------------------------|---|--------|--------|--------|--------|---------------------|--------|--------|-------|-------|--------|--------|
| 1. Self-Compassion (Total) | 1 | -.635* | -.448* | -.425* | -.503* | -.554* ^a | .647* | -.795* | .463* | -.76* | .558* | -.787* |
| 2. Fear of Negative Evaluation | | 1 | .599 | .537* | -.675* | .732* | -.255* | .665* | -.052 | .626* | -.167 | .664* |
| 3. Cognitive Avoidance | | | 1 | .531* | .259* | .558* | -.103 | .508* | .094 | .535* | -.093 | .535* |
| 4. Private Self-Consciousness | | | | 1 | .668* | .471* | -.092 | .532* | .09 | .518* | .012 | .526* |
| 5. Public Self-Consciousness | | | | | 1 | .529* | -.152 | .616* | .008 | .516* | -.04 | .552* |
| 6. Social Anxiety (SPIN Total) | | | | | | 1 | -.262* | .559* | -.114 | .482* | -.233* | .515* |
| 7. SCS: Self-Kindness | | | | | | | 1 | -.311* | .482* | -.23* | .528* | -.253* |
| 8. SCS: Self-Judgement | | | | | | | | 1 | -.017 | .727* | -.15 | .773* |
| 9. SCS: Common Humanity | | | | | | | | | 1 | -.043 | .545* | -.033 |
| 10. SCS: Isolation | | | | | | | | | | 1 | -.125 | .754* |
| 11. SCS: Mindfulness | | | | | | | | | | | 1 | -.17 |
| 12. SCS: Over-Identified | | | | | | | | | | | | 1 |

Based on 2000 bootstrap samples ^aNote reduced sample size (n=298) due to missing data *correlation significant after bonferroni correction (p<.0005)

negative correlations with each of the cognitive maintaining factors. Social anxiety had significant negative correlations with each of the self-compassion subscales, however correlations appeared larger with negative subscales (self-judgement, isolation, over-identification) in comparison to positive subscales (self-kindness, common humanity, mindfulness). Neither cognitive avoidance (CAQ) nor private self-consciousness (PrSc) were correlated to the positive self-compassion subscales, while as public self-consciousness (PuSc) was only correlated with Self-Kindness of the positive subscales. The Common Humanity subscale had no significant association to any of the social anxiety cognitive maintaining factors. Due to the finding of a significant role of gender (see section 2.3.1), additional correlations were run separately for male and female participants (Appendix V). On the whole patterns reported were upheld with larger associations identified for females in comparison to males.

2.3.3 Regression Analysis

Table 2.5. Summary of Hierarchical Regression to predict social anxiety.

| <i>Variable</i> | <i>B</i> | <i>95% BCa CI</i> | | <i>B (standardised)</i> | <i>t</i> | <i>p-value</i> | <i>R</i> | <i>R²</i> | <i>ΔR²</i> |
|---------------------|----------|-------------------|-------|-------------------------|----------|----------------|----------|----------------------|-----------------------|
| Step 1 | | | | | | | .465 | .217 | .217 |
| Depression | .965 | .76 | 1.17 | .465 | 9.152 | <.001 | | | |
| Step 2 | | | | | | | .633 | .4 | .184 |
| Depression | .262 | .03 | .49 | .127 | 2.228 | .027 | | | |
| Generalised Anxiety | 1.380 | 1.1 | 1.66 | .547 | 9.625 | <.001 | | | |
| Step 3 | | | | | | | .663 | .439 | .039 |
| Depression | .121 | -.11 | .35 | .058 | 1.021 | .308 | | | |
| Generalised Anxiety | 1.088 | .79 | 1.39 | .431 | 7.116 | <.001 | | | |
| Self-Compassion | -5.669 | -8.11 | -3.23 | -.258 | -4.567 | <.001 | | | |

95% bias corrected and accelerated confidence intervals, based on 2000 bootstrap samples

A three stage hierarchical regression was conducted with social anxiety as the dependent (predicted) variable, to explore the independent effect of self-compassion on social anxiety, over and above variance explained by depression (stage 1) and generalised anxiety (stage 2). Data met the assumption of independent errors (Durbin-Watson = 1.9) and multi-collinearity was not deemed to be a concern, due to the finding of tolerance scores ranging from (0.51 –1) and VIF from (1-1.968). It was found that depression contributed significantly, ($F(1,303)=83.750$, $p<.0001$), accounting for 21.7% of the variance in social anxiety. The introduction of generalised anxiety accounted for an additional 18.4% of variance, ($F(2,302)=$

100.859, $p < .0001$), while as the inclusion of self-compassion contributed a further 3.9% to the model ($F(3,301)=78.613$, $p < .0001$). Combined the three predictors accounted for 43.9% of the variance in social anxiety. Consideration of β values identified that generalised anxiety had the strongest relationship to social anxiety, followed by self-compassion. Depression was not found to be a significant predictor with inclusion of the other variables (Table 2.5).

2.3.4 Mediation Analysis

Table 2.6 presents the direct and indirect effects of the proposed mediators on the relationship between self-compassion and social anxiety. Figure 2.1 depicts the model under investigation alongside results from regression analyses. As gender was found to be related to the dependant variable (see section 2.3.1), it was placed as an additional covariate alongside depression and generalised anxiety.

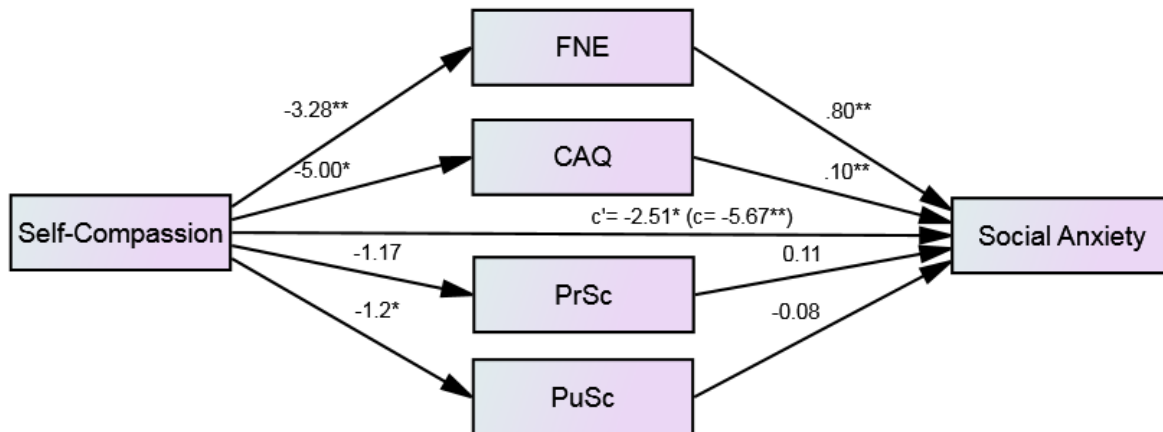
Table 2.6. Mediation effects of multiple mediators on the relationship between Self-Compassion and Social Anxiety: Total, Direct and Indirect effects.

| <i>Mediator</i> | | <i>Products of Coefficients</i> | | <i>95% BCa Confidence Intervals</i> | |
|-----------------------------|--------------|---------------------------------|-----------|-------------------------------------|--------------|
| | | <i>b</i> | <i>SE</i> | <i>Lower</i> | <i>Upper</i> |
| Total | | -5.67 | 1.27 | -8.18 | -3.17 |
| Direct | | -2.51 | 1.17 | -4.82 | -.2 |
| Indirect (mediation) | <i>FNE</i> | -2.63 | .64 | -4.22 | -1.59 |
| | <i>CAQ</i> | -.5 | .29 | -1.26 | -.09 |
| | <i>PrSC</i> | -.1248 | .1909 | -.8 | .09 |
| | <i>PuSc</i> | .09 | .19 | -.18 | .69 |
| | <i>Total</i> | -3.16 | .75 | -4.89 | -1.88 |

95% bias corrected and accelerated confidence intervals, based on 5000 bootstrap samples

It can be seen that the direct effect from self-compassion to social anxiety reduces with inclusion of the mediators and covariates. However, a direct effect continues to exist suggesting that included mediators result in partial mediations only. The inclusion of four mediators and three covariates allowed for 57% of the variance in social anxiety to be explained ($F(8,283)=46.99$, $p < .0001$, $R^2=.57$). It can be seen that self-compassion indirectly influenced social anxiety, to a significant level, through its effect on fear of negative evaluation and separately through cognitive avoidance. Neither measure of self-focused attention was found to uniquely mediate this relationship when considered in the multiple mediator model. Pairwise contrasts compared the magnitudes of indirect effects to one another in which the indirect effect through fear of negative evaluation (FNE) was found to be significantly larger than all other indirect effects (Table 2.7).

Figure 2. 1. Multiple Mediation Analysis of the relationship between self-compassion and social anxiety (controlling for depression, generalised anxiety & gender)



Independent Variable: Self-Compassion
 Mediators: Fear of Negative Evaluation (FNE); Cognitive Avoidance (CAQ); Self-Focused Attention: Private Self-Consciousness (PrSc) and Public Self Consciousness (PuSc)
 Covariates: Depression, Generalised Anxiety and Gender
 Unstandardised Regression Coefficients significant at: * $p < .05$, ** $p < .001$, analyses based on 5000 bootstrap samples.

Table 2.7. Mediation effects of multiple mediators on the relationship between Self-Compassion and Social Anxiety: Pairwise comparisons of indirect effects.

| Indirect Effect | Products of Coefficients | | 95% BCa Confidence Intervals | |
|----------------------|--------------------------|-----------|------------------------------|--------------|
| | <i>b</i> | <i>SE</i> | <i>Lower</i> | <i>Upper</i> |
| FNE minus CAQ | -2.13 | .64 | -3.63 | -1.03 |
| FNE minus SCSPriv | -2.5 | .66 | -4.1 | -1.43 |
| FNE minus SCSPub | -2.7 | .72 | -4.48 | -1.58 |
| CAQ minus SCSPriv | -.38 | .37 | -1.26 | .23 |
| CAQ minus SCSPub | -.6 | .34 | -1.52 | -.07 |
| SCSPriv minus SCSPub | -.22 | .32 | -1.2 | .17 |

95% bias corrected and accelerated confidence intervals, based on 5000 bootstrap samples

2.3.5 Participant Feedback

90% ($n = 373$) completed the feedback form (Appendix O). 83.1% of adolescents reported that they enjoyed taking part in the study, 86.9% reported that they believed the content of the study was important, while as 74% indicated that they would ask a friend to take part.

Appendix W outlines additional information on participant feedback.

2.4. Discussion

This cross sectional study aimed to explore the relationship between self-compassion and social anxiety in a community based adolescent sample. The study results will now be considered in relation to the initially outlined aims and hypotheses.

2.4.1. Primary Aim: The relationship between self-compassion and social anxiety

The findings of this study support the hypothesis that self-compassion is negatively related to social anxiety symptomology in an adolescent community sample, as self-compassion was found to negatively correlate with social anxiety. The identified relationship ($r = -.551$, $p < .0001$, 95% CI $[-0.62, -0.48]$), is in keeping with a large effect size indicating a strong relationship between the two variables. The strength of association is consistent with that identified by MacBeth & Gumley (2012) in their meta-analysis on the relationship between self-compassion and psychopathology in adults ($r = -.54$, 95% CI $[-0.57, -0.51]$) and comparable to Neff & McGehee's findings with adolescent samples of, $r = -.6$, for the association between depression and self-compassion, but below their finding of, $r = -.73$, for the association between anxiety and self-compassion.

However, this result is in contrast to that of Werner et al (2012) who did not find total self-compassion to correlate with social anxiety. On the other hand, the finding of a significant group difference in self-compassion between those with high vs. low social anxiety (Werner et al, 2012) was replicated. Differences in results may be due to the recruitment of different samples with Werner et al (2012) exploring relationships within an adult clinical sample, many of whom had comorbid and chronic difficulties (Werner et al, 2012). Results therefore may suggest that total self-compassion is less related to higher levels of social anxiety symptomology with further studies necessary to address this hypothesis.

2.4.2 Secondary Aims:

2.4.2.1. Self-compassion will be a unique predictor of social anxiety

Our second hypothesis was supported as self-compassion was identified as a unique predictor of social anxiety in regression analyses after controlling for both generalised anxiety and depression (Table 2.5). Although the increased variance as a result of self-compassion was small ($R^2 = .039$), the significant overlap between generalised anxiety and social anxiety must be considered as this combination may not have allowed for much additional variance to be accounted for. This finding is consistent with that of Werner et al (2012) in which group differences on self-compassion across those with and without SAD were upheld when controlling for depression and general anxiety.

2.4.2.2. Self-Compassion will be (negatively) associated with the cognitive maintaining factors of social anxiety i.e. a) fear of negative evaluation, b) cognitive avoidance and c) self-focused attention

This hypothesis was supported as results indicate that self-compassion is negatively associated with each of the proposed mediators (Table 2.4). The finding that each of the proposed mediators was more strongly related to the negative subscales of the SCS in contrast to the positive subscales is consistent with previous research which found self-judgment and isolation to be the most significant predictors of mixed anxiety and depression (Van Dam, Sheppard, Forsyth & Earleywine, 2011) and that associations between the positive subscales, in particular Common Humanity, of the SCS and depressive symptoms tend to be weaker than those with the negative subscales (Barnard & Curry, 2011).

2.4.2.3. The relationship between self-compassion and social anxiety will be mediated by the cognitive maintaining factors of social anxiety

Multiple mediation analyses provide partial support for the proposed model (Figure 2.1). Results indicate that the combined mediators did not fully mediate/explain the relationship of interest as a direct contribution of self-compassion on social anxiety continued to exist (Table 2.6). This may be explained by the presence of alternative mediator variables (see section 2.4.6.2).

Fear of Negative Evaluation (FNE) was the strongest mediator while as cognitive avoidance (CAQ) was found to also be significant but to a lesser degree (Table 2.7). These findings appear consistent with the previous suggestion that self-compassion may be more strongly linked to cognitive aspects of social anxiety (Werner et al, 2012). The identified patterns suggest that higher self-compassion may support adolescents to be less fearful of evaluations and less avoidant, in turn leading to reduced symptoms of social anxiety. This appears consistent with theoretical discussions as a self-compassionate stance will increase willingness to engage painful thoughts and emotions, therefore reducing a need to avoid negative and painful experiences (Leary et al, 2007). This suggests that it is not only the presence of negative events/ thoughts relating to social situations, but the way in which a person relates to themselves when they occur which is of relevance to coping and distress. Therefore it may be advantageous to not only aim to change evaluations, as many cognitive behavioural therapy approaches do, but to change individual's relationships to their evaluations and themselves.

The finding that neither measure of self-focused attention mediated the relationship of interest was contrary to our hypotheses. This finding may be a result of the method of analysis chosen, as reported indirect effects are determined from the model as a whole, with the presence of additional mediators (e.g. FNE, CAQ) and covariates taken into

consideration. Therefore reported indirect effects relate to what is accounted for by each mediator beyond what is accounted for by other included variables, indicating that in the current model there was not supportive evidence that self-compassion influenced social anxiety through self-focused attention, independent of other included variables (Table 2.6).

2.4.3 Additional Exploratory Findings:

2.4.3.1 The role of gender

The finding that adolescent males had higher levels of self-compassion and lower levels of psychopathology in comparison to adolescent females (Table 2.3) replicates findings in previous research. Gender differences in self-compassion remain inconclusive as a number of studies have found males to have higher self-compassion than females (Neff, 2003b; Neff & Vonk 2009; Neff, Hseih & Djitthirat, 2005; Raes, 2010) while as a recent meta-analysis did not confirm a significant role of gender (MacBeth & Gumley, 2012). In contrast, the finding of higher social anxiety in adolescent females appears consistent with the wider literature (DeWit et al, 2005). Additional analyses (Table 2.3, Appendix V), replicated the findings of Bluth & Blanton (2014) with a larger adolescent sample, as it was identified that gender differences in self-compassion exist on negative subscales only, with females reporting higher scores on items relating to self-judgement, over-identification and isolation. This may suggest differences in the ways in which male and female adolescents relate to the self, with females in particular more prone to the negative components of self-compassion, in keeping with previous findings that they are more likely to be self-critical (Neff, 2003a).

2.4.4. General Discussion

Results suggest that self-compassion and social anxiety are related and provide preliminary support that higher self-compassion may be protective against the development/experience of social anxiety symptomology. Specifically, higher self-compassion may alter adolescent's relationships with the self in turn impacting relationships with their own and other's evaluations, real or imagined, and the ways in which they cope with actual or imagined social situations, in turn impacting on experience of social anxiety. Increased self-compassion may aid adolescents to direct fewer attentional resources towards worrying about other peoples' view of them whilst providing abilities to keep worries or fear of negative evaluations at a distance and in perspective, resulting in the drawing of more balanced conclusions. In particular it is likely that an ability to recognise and accept that social awkwardness and mishaps are a normal part of life may bolster adolescents against self-

criticism and engagement in avoidance strategies. However, it is worth highlighting that in the current study, stronger associations were found between the negative subscales of self-compassion and social anxiety suggesting that reduced tendencies to be judgemental, to isolate or to over-identify were the most protective factors against social anxiety.

Results support the proposition that self-compassion is relevant to adolescents and in particular adolescents who experience social anxiety. Adolescence is a period of development associated with continuous self-evaluation and a time of identity formation (Harter, 1990) alongside a period of heightened social comparison and experiences of bullying, with social failure and error a realistic and probable possibility (Gilbert & Irons, 2009). The significant role of fear of negative evaluation identified in this study may be specific to adolescence as FNE has been found to increase at this time (Baumeister & Leary, 1995; Weems & Costa, 2005). Similarly, although the role of age was not explored in this study, the finding that age was positively associated with self-compassion in non-clinical controls but that the opposite occurred for those with SAD, in the study of Werner et al (2012), suggests that adopting a compassionate approach at a young age may be particularly beneficial.

2.4.5 Clinical Implications

The findings of this research suggest that self-compassion and compassion focused interventions may be worthwhile lines of investigation in the development of enhanced treatments for social anxiety in adolescents. To date, a number of techniques/interventions have been found effective in raising self-compassion including compassionate mind training (CMT) (Gilbert & Irons, 2005); cognitive based compassion training (CBCT) (Reddy et al, 2012); imagery building (Gilbert & Irons, 2004; Lee, 2005), the Gestalt two chair technique (Gilbert & Irons, 2005; Neff et al, 2007) and mindfulness based stress reduction (MBSR) (Shapiro et al, 2005; Shapiro, Brown & Biegel, 2007).

In addition, Compassion Focused Therapy (CFT) provides a framework with which to focus other psychological interventions to encourage activation of the affiliative system (Gilbert, 2014). This is important clinically as widely adopted interventions, such as Cognitive Behavioural Therapy (CBT), may be enhanced by the adoption of a compassionate stance and the addition of compassion focused techniques, in particular for those patients identified to have lower levels of self-compassion. Similarly, there is initial evidence that other third wave interventions such as Dialectical Behaviour Therapy (DBT) and Acceptance and Commitment Therapy (ACT) may also lead to improvements in self-compassion (Barnard & Curry, 2011).

In keeping with recent government strategies which state that “good mental health is not potentiated solely by the absence of mental ill health but the presence of positive mental health factors” (Nowell, 2014), it is suggested that increased knowledge on the role of self-compassion in adolescent mental health, in particular in social anxiety, may provide and promote an alternative way to conceptualise adolescent difficulties. It is proposed that the specific consideration or inclusion of the concept of self-compassion in currently available active inclusion campaigns (see *SeeMeScotland.org*) or in school based psycho-educational interventions, may support adolescents to recognise the normality and shared experience of their difficulties and lead to increased recognition of tendencies to become self-judgemental or to engage in processes of isolation and over-identification. Such brief interventions could also educate adolescents and staff on alternative coping strategies i.e. those that expand self-compassion such as loving-kindness meditation (Hutcherson, Seppala & Gross, 2008) and mindfulness. The placing of such interventions within a school setting further normalises adolescents’ experiences. Similarly, with specific consideration of those with social anxiety, such interventions would provide support in an effective and currently accessed environment which may aid engagement, as it is recognised that those with social anxiety often fail to seek treatment (NICE, 2013). The provision of such interventions may reduce social anxiety symptoms impacting on day to day functioning for those with mild to moderate difficulties, whilst also creating a compassionate and open environment for those who may be in need of increased one to one support.

2.4.6. Methodological Considerations

2.4.6.1 Strengths

The current study had a number of methodological strengths. In particular the study accessed a large population suggesting that recruitment strategies were effectively implemented. As a result the study was well-powered and the sample was balanced across genders. The inclusion of a large subset of males students (n=170) is particularly important as to date research on self-compassion has included more females than males (MacBeth & Gumley, 2012). In addition the study assessed a full range of social anxiety symptoms (see section 2.3.1), increasing the generalisability of findings. Similarly, this suggests that the included sample is representative with social anxiety symptoms prevalent in the wider community. However the applicability of findings to adolescents in clinical services warrants further investigation. In addition the study used standardised validated psychometrics with psychometric properties demonstrated both in previous research and replicated with the current sample. However tests

of reliability suggest that subscales of the SCS have room for improvement, in particular the Mindfulness subscale, which fell below the 0.7 threshold for acceptable internal reliability (Kline, 1999), suggesting that interpretations based on subscale scores should be treated as preliminary. Finally, the inclusion of numerous potential mediating variables in analyses, along with potential confounding factors as covariates, is a strength of this study as it reduced the risk of biased parameter estimates due to the omission of variables which occurs in studies of simple mediators.

2.4.6.2 Limitations

Study findings must be considered in the context of its limitations. Firstly, the cross-sectional design does not allow for the drawing of causation. Whilst the directions of relationships have been proposed based on previous theory and research, it is possible that constructs effect each other in alternative ways. For example, frequent negative evaluations and use of cognitive avoidance strategies may alter the ways in which a person relates to themselves which in turn impacts on social anxiety symptoms or the continued experience of social anxiety symptoms may result in decreased kindness towards the self, resulting in increased cognitive avoidance and fear of negative evaluations.

Secondly, this study relied solely on the use of self-report measures. Although some constructs are subjective experiences and thus appropriate for self-report e.g. self-compassion, other concepts such as social anxiety may have benefited from the choice of more objective measurement tools such as structured clinical interviews. However, this was not possible due to the practical constraints related to recruiting a large sample. In addition although the Neff Self-Compassion Scale is currently the most widely used measure of self-compassion some concerns have been raised in relation to its underlying structure. Williams et al (2014) failed to replicate evidence for an overarching construct of self-compassion with this study suggesting that the six subscale structure is a more appropriate model, although this latter model was also queried in its use with clinical patients (Williams et al, 2014). However the validity of the scale remains inconclusive as the SCS has been found to relate, as would be expected, with measures of psychopathology (MacBeth & Gumley, 2012) whilst a more recent factor analysis study, reported findings consistent with those of Neff (2003s)'s original paper with both clinical and non-clinical samples (Castilho, Pinto-Gouveia & Duarte, 2015).

Finally, it is possible that the relationship between self-compassion and social anxiety may have been further explained by factors which were not included in this study. In particular it is believed that the absence of a measure of shame is a limitation, as shame is a

central factor in relation to both social anxiety and self-compassion. It is believed that the possible role of shame is further supported by the finding of a mediating role of fear of negative evaluation which is closely related to aspects of the self. In addition, although found to be a significant correlate to both shame and social anxiety by Werner et al (2012), a measure of fear of positive evaluation validated in adolescent samples was not available at the time of study design (Lipton, Augenstein, Weeks & De Los Reyes, 2014).

2.4.7. Recommendations for future research

The results of the current study indicate a need for further research. Most significantly, there is a need for longitudinal and experimental studies, explicitly testing causal chains such as those proposed in this study, as to date self-compassion has been found to be both a predictor and consequence of psychopathology. In addition, longitudinal studies may offer further insight on the stability of self-compassion over time, whilst self-compassion induction studies may aid exploration of the relations between its underlying positive and negative components. Furthermore there is a need for intervention based studies so that the way in which self-compassion changes and results in change in psychopathology can be understood. Due to the finding of a significant role of fear of negative evaluation in the current study, it is proposed that consideration of fear of compassion and compassion towards others may be useful constructs to consider in future research. Finally, in terms of methodological factors, future research should focus not only on the self-compassion total scale but its individual subscales. In addition the use of alternative compassion focused measure such as the Fear of Compassion Scales (Gilbert, McEwan, Matos & Rivis, 2011) and the Forms of self-criticism and self-reassurance scales (Gilbert et al, 2004) may widen understanding. Lastly as this was the first study to explore the relationship between self-compassion and social anxiety in adolescents, replication is necessary to strengthen the conclusions drawn and to ensure generalisability.

2.4.8. Conclusions

This was the first study to consider the relationship between self-compassion and social anxiety in a community based adolescent sample. Results expand the current literature by demonstrating both a direct relationship between self-compassion and social anxiety alongside indirect relationships through fear of negative evaluation and cognitive avoidance. In addition, self-compassion was identified as a unique predictor of social anxiety, accounting for additional variance above and beyond depression and generalised anxiety. Results

provide preliminary evidence that the way in which adolescents treat themselves at times of social distress or when faced with social situations is an important factor in the development and maintenance of social anxiety. The cross sectional design of this study does not allow for causation to be inferred but indicates that further investigation in this area is warranted.

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JOURNAL OF ANXIETY DISORDERS

AUTHOR INFORMATION PACK

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Journal of Anxiety Disorders is an interdisciplinary journal that publishes research papers dealing with all aspects of anxiety disorders for all age groups (child, adolescent, adult and geriatric). Manuscripts that focus on disorders formerly categorized as anxiety disorders (obsessive-compulsive disorder, posttraumatic stress disorder) and the new category of illness anxiety disorder are also within the scope of the journal. Research areas of focus include: traditional, behavioral, cognitive and biological assessment; diagnosis and classification; psychosocial and psychopharmacological treatment; genetics; epidemiology; and prevention. Theoretical and review articles that contribute substantially to current knowledge in the field are appropriate for submission. The journal also contains sections for clinical reports (single-case experimental designs and preliminary but innovative case series) and brief reports designed to highlight empirical research that may be limited in scope or present research that may be innovative but in need of replication (see instructions to authors regarding the format for the brief report).

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Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file.

REVISED SUBMISSIONS

Use of word processing software

Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: <http://www.elsevier.com/guidepublication>). See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Article structure

Subdivision - numbered sections

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Material and methods

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

Theory/calculation

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results

Results should be clear and concise.

Discussion

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

- The title page must be the first page of the manuscript file.

Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible. **Author names and affiliations.** Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name, and, if available, the e-mail address of each author. **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.** **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a "Present address" (or "Permanent

address") may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. The abstract should not exceed 150 words in length and should be submitted on a separate page following the title page.

Graphical abstract

Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. See <http://www.elsevier.com/graphicalabstracts> for examples.

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Include a list of four to six keywords following the Abstract. Keywords should be selected from the APA list of index descriptors unless otherwise approved by the Editor.

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Math formulae

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

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General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.

- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Indicate per figure if it is a single, 1.5 or 2-column fitting image.
- For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
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TIFF (or JPG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

Please do not:

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- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

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Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules.

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

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Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

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There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

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One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address

All necessary files have been uploaded, and contain:

- Keywords

- All figure captions
 - All tables (including title, description, footnotes)
- Further considerations
- Manuscript has been 'spell-checked' and 'grammar-checked'
 - All references mentioned in the Reference list are cited in the text, and vice versa
 - Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- Printed version of figures (if applicable) in color or black-and-white
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<http://dx.doi.org/10.1016/j.physletb.2010.09.059>

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Appendix B: *Search Terms used in Systematic Review Search*

1. sham* - shame, shamed, shaming, shames
2. social*-anx* - social anxiety, socially anxious, social anxieties
3. social*-phob* - social phobia, socially phobic
4. SAD - social anxiety disorder
5. SP - social phobia

Appendix C: *Systematic review data extraction form*

General information

Date of data extraction:

Author:

Article Title:

Citation:

Type of publication (e.g. journal article, conference abstract):

Country of origin:

Study characteristics

Aim/ objectives of the study:

Study design:

Study inclusion criteria:

Study exclusion criteria:

Recruitment procedures used:

Participant characteristics

Age:

Gender:

Ethnicity:

Socio-economic status:

Mean anxiety:

Mean shame

Co-morbidities

Number of participants in sample:

Method, intervention and setting

Clarification of shame provided:

Clarification of social anxiety:

Setting in which the study/intervention is conducted/ research takes place:

Description of the intervention(s) and control(s) (if applicable):

Outcome data/ results:

Unit(s) of assessment or measure used (Shame):

Unit(s) of assessment or measure used (Social Anxiety/ Social Anxiety Disorder):

Additional Measures/ Confounding Variables:

Statistical techniques used:

Length of follow-up, number and/or times of follow-up measurements:

Results of study analysis:

Key Findings:

Appendix D: *Quality Rating Tool for Systematic Review*

Quality criteria to address how the following studies address the question: Is there an association between shame and social anxiety?

1) Research Questions and Objectives

| Quality Criteria: The study addresses an appropriate and clearly focused question, drawn from a theoretical model or previous research? | | |
|---|--|--|
| Well-covered (2) | The aim and or/ hypotheses of the study are easily identified in the introductory section and directly relate to the provided literature review | |
| Adequately addressed (1) | The aim and or/ hypotheses of the study can be ascertained from the description given and the literature review, but is/are not clearly defined. | |
| Poorly addressed (0)/ Not addressed (0) | The aim and or/ hypotheses of the study are not clearly defined and cannot be ascertained from the description given and the literature review. | |
| Not applicable (0) | Applicable for all – link to above | |

2) Sampling

2a) Recruitment Method

| Quality Criteria: The recruitment/sampling method adopted is described and appropriate | | |
|--|--|--|
| Well-covered (2) | The recruitment/sampling method is clearly reported and designed to ensure that minimal bias is introduced (e.g. random sampling, quota sampling). Where applicable inclusion/ exclusion criteria are described and defined (e.g. clinical group). | |
| Adequately addressed (1) | The recruitment/sampling method is reported. The method used resulted in bias in those who are approached and/or among those who participated (e.g. convenience/ opportunity/ volunteers). Where applicable inclusion/ exclusion can be determined (e.g. clinical group) | |
| Poorly addressed (0)/ Not addressed (0) | The recruitment/sampling method chosen resulted in a significantly biased, non-representative sample <i>or</i> No information is provided on the recruitment/sampling method. | |
| Not applicable (0) | Descriptive case series/ reports | |

2b) Representativeness

| Quality Criteria: Baseline demographic and clinical characteristics (e.g. age, gender, diagnosis, co-morbidities) of the participants are clearly stated. | | |
|---|--|--|
| Well-covered (2) | Sufficient relevant baseline/demographic information clearly characterising the participants is provided. Reproducible criteria is used to categorise participants (e.g. diagnostic measures/ non-clinical). | |
| Adequately addressed (1) | At least two relevant baseline/demographic patient characteristics are provided. Criteria used to categorise participants is ascertainable from information provided. | |
| Poorly addressed (0)/ Not addressed (0) | One or no relevant baseline/ demographic characteristics are provided. | |
| Not applicable (0) | Applicable for all – link to above | |

3) Design & Method

3a) Setting

| Quality Criteria: Details are provided on data collection i.e. location, timeframes and follow up | | |
|---|---|--|
| Well-covered (2) | A detailed description of data collection processes which are easily replicable are outlined. This includes details of location, time in between sessions and follow up etc. as applicable. | |
| Adequately addressed (1) | Data collection processes are outlined. This includes some details of location, time in between sessions and follow up etc., as applicable. | |
| Poorly addressed (0)/ Not addressed (0) | The data collection process is not outlined/ addressed. | |
| Not applicable (0) | Applicable for all – link to above | |

3b) Construct Specificity

| Quality Criteria: Variables are clearly defined and specific | | |
|--|---|--|
| Well-covered (2) | Definitions and clarification of variables are clearly outlined i.e. type of shame (e.g. internal and external) and social anxiety (e.g. symptomology, disorder etc). | |
| Adequately addressed (1) | Definitions and clarification of variables are not clearly outlined but can be ascertained from information provided | |
| Poorly addressed (0)/ Not addressed (0) | No attempt is made to define variables under consideration and clarification cannot be inferred from the information provided. | |
| Not applicable (0) | Applicable for all – link to above | |

3c) Outcome Measure - Shame

| Quality Criteria: The measure used to assess Shame is appropriate and evidenced to be both reliable and valid | | |
|---|---|--|
| Well-covered (2) | It has been established that measures used have good reliability and validity. | |
| Adequately addressed (1) | It has been established that measures used have at least adequate reliability and validity. | |
| Poorly addressed (0)/ Not addressed (0) | Measure of shame is of limited reliability or validity or instrument <i>or</i> method of assessment not reported. | |
| Not applicable (0) | Applicable for all – link to above | |

3d) Outcome Measure - Social Anxiety

| Quality Criteria: The measure used to assess social anxiety is appropriate and evidenced to be both reliable and valid | | |
|--|--|--|
| Well-covered (2) | Robust diagnostic test used e.g. semi-structured diagnostic interview measure of SAD is reliable and valid and is applied by a clinician or assistant researchers with appropriate training and supervision. | |
| Adequately addressed (1) | Semi-structured interview measure of SAD is valid and reliable and is applied by non-clinical staff or measure of SAD is by self report/ screening tool. | |
| Poorly addressed (0)/ Not addressed (0) | Measure of SAD is of limited reliability or validity or instrument/method of assessment not reported. | |
| Not applicable (0) | Applicable for all – link to above | |

4) Analyses

4a) Power and Sample Size

| Quality Criteria: The sample size is adequate, enabling sufficient power to be achieved. | | |
|--|---|--|
| Well-covered (2) | Number of participants was sufficient to enable power of at least 0.8, where effect size was anticipated to be moderate and alpha was set at .05 | |
| Adequately addressed (1) | Number of participants was sufficient to enable power of at least 0.7, where effect size was anticipated to be moderate and alpha was set at .05 | |
| Poorly addressed (0)/ Not addressed (0) | Number of participants was sufficient to enable power of less than 0.7, where effect size was anticipated to be moderate and alpha was set at .05 <i>or</i> Power not calculable or elements to calculate power are not reported. | |
| Not applicable (0) | Descriptive case series/ reports/ surveys. | |

4b) Statistical Analysis

| Quality Criteria: Statistical analyses are fully reported and appropriate. | | |
|--|--|--|
| Well-covered (2) | Analyses used are clearly defined (e.g. Pearson product moment correlations, t-tests) and appropriate (enable identification of relationship between shame and social anxiety and appropriate to sample size). | |
| Adequately addressed (1) | Analyses used are ascertainable from the description and appear to be appropriate (enable identification of relationship between shame and social anxiety and appropriate to sample size). | |
| Poorly addressed (0)/ Not addressed (0) | Analyses used are not described or are not appropriate (do not enable identification of relationship between shame and social anxiety and/or are not appropriate for the sample size.) | |
| Not applicable (0) | Descriptive case series/ reports. | |

4c) Confounding Variables

| Quality Criteria: Confounding variables (e.g. depression/ guilt) are adequately considered and addressed in the study | | |
|---|--|--|
| Well-covered (2) | Potential confounding variables are adequately recognised and a description is provided on how they are addressed in statistical analysis. | |
| Adequately addressed (1) | Potential confounding variables are recognised and there is recognition of a possible effect but they are not considered in statistical analysis | |
| Poorly addressed (0)/ Not addressed (0) | Potential confounding variables are not recognised or considered in the statistical analysis. | |
| Not applicable (0) | | |

5) Generalisability

| Quality Criteria: Generalisability of findings | | |
|--|---|--|
| Well-covered (2) | A detailed description of the generalisability of findings is provided. | |
| Adequately addressed (1) | The generalisability of findings have been discussed in some detail | |
| Poorly addressed (0)/ Not addressed (0) | There is insufficient/ no description of the generalisability of findings | |
| Not applicable (0) | | |

| | Overview of Quality Criteria Domains | |
|----------|---|--|
| 1 | Research Questions and Objectives | |
| 2 | Sampling | |
| 3 | Design and Method | |
| 4 | Statistical Analysis | |
| 5 | Generalisability | |
| | | |
| | Total score | |
| | Percentage (based on number of items rated as applicable) | |
| | Descriptive Category (Good > 70%, Fair, > 50%, Weak <50%) | |

| | A judgement of the overall quality of the study |
|---------------------------------|---|
| ++ Good to excellent = 3 | |
| + Adequately good = 2 | |
| - Poor to adequate = 1 | |

Appendix E: Excluded Studies from Systematic Search

Table E. 1. Excluded studies from Systematic Review

| Studies excluded (n) | Reason (s) for exclusion |
|---|---|
| <i>Abstract Review</i> | |
| 9 studies excluded Antony (2011) BeesdoBaum et al (2012) Bogels et al (2014) Chartier et al (2001) Feldman & RivasVasquez, (2003) Fisak & Mann (2010) Rusch et al (2012) Sareen & Stein (2000) Schneier (2006) | No quantitative measure of shame/ shame not considered as outcome |
| 4 studies excluded DeHooge et al (2008) Frewen et al (2012) Lutwak et al (2003) Stearns & Parrott (2012) | Social Anxiety not considered as independent outcome |
| 13 studies excluded Albohne-Kuhne & Rief (2011) Grabhorn et al (2005) Kammerer (2010) Kang et al (2011) Li et al (2005) Li et al (2005b) Li et al (2003) Michal et al (2006) Park & 홍혜영 (2013) Rockenberger et al (2012) 최인선 & Choi (2013) 심현진 & (2013) 김민경 & HyunMyoungHo (2013) | Not available in English |
| 6 studies excluded Ayers (2003) Cole (2013) DiPino (1993) Golden (2014) Hyde (2003) Schurman (2001) | Dissertation Abstracts |
| 3 studies excluded Chung et al (2013) Lahti (1998) Pallanti.& Quercioli (2000) | Full Papers could not be accessed |
| 1 study excluded Qian et al (2004) | Conference Presentation/ Poser |
| 4 studies excluded | Book Review |

| | |
|---|--|
| Benau (2012) Franks & Lackner (1992) Hofmann (2007) Szajnberg (1995) | |
| 3 studies excluded denBoer (1997) Li et al (2001) Vriends et al (2014) | Review Articles |
| 1 study excluded Fairbrother (2002) | Theoretical Discussion |
| 1 study excluded Schneier (2003) | Editorial Article |
| <i>Full Article Review</i> | |
| 3 studies excluded Gilbert (2001) Helsel (2005) Okano (1994) | No quantitative measurements |
| 2 studies excluded Guimon et al (2007) Sznycer et al (2012) | No measurement/ categorisation of social anxiety |
| 3 studies excluded Clerkin et al (2014) Henderson (1997) Shahar (2013) | No quantitative measure of shame |
| 3 studies excluded Boersma et al (2014) Henderson (2002) Weeks et al (2011) | No direct statistical analysis of shame and social anxiety |
| 1 study excluded Gumley et al (2004) | Shame of illness only considered |

Appendix F: Permissions for Questionnaires

F1) *Self Consciousness Scales*

Dear Gill,

You have my permission to use the SCS. Good luck!

Best,

Allan

On Wed, Jul 3, 2013 at 4:46 PM, Gill Ciara (NHS LANARKSHIRE) < > wrote:
Dear Dr. Fenigstein,

My name is Ciara Gill and I am a Trainee Clinical Psychologist with the University of Edinburgh. I am currently devising my research thesis and was hoping to use your Self Consciousness Scale. I am emailing to ensure that is appropriate and to enquire in relation to permissions.

Any information would be greatly appreciated.

Ciara Gill
Trainee Clinical Psychologist
University of Edinburgh & NHS Lanarkshire

- F2) *Social Phobia Inventory (SPIN)*

Dear Ciara:

Thank you for returning the paperwork. I am pleased to enclose a copy of the SPIN. Please let me know if you have any further questions.

Very best regards,

Jonathan Davidson

- F3) *Social Anxiety Scale for Adolescents (SAS-A)*

> Dear Ms. Reyes,

>

> I am emailing as I am hoping to use the Social Anxiety Scale for Adolescents (SAS-A) as a measure in my thesis project as part of the Doctorate in Clinical Psychology.

>

> I understand that the scales are copyrighted and confirm that I will not publish norms, alterations, or translations of the instrument without Dr. La Greca's written permission or

collaboration.

>

> I am aware there is a cost involved in use of the scales and would queried whether there was a more appropriate method of payment as opposed to sending a cheque across the Atlantic.

>

> Ciara Gill

> Trainee Clinical Psychologist

> University of Edinburgh & NHS Lanarkshire

Appendix G: Demographics Questionnaire



The relationship between self-compassion and social anxiety in adolescents

Main Researcher: Ciara Gill, Trainee Clinical Psychologist

DEMOGRAPHICS QUESTIONNAIRE

Please answer all the questions as best you can

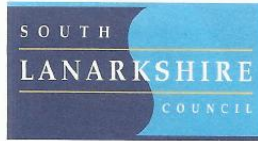
1. Age.....
2. Sex (please circle) **Male** / **Female**
3. *How would you consider your ethnicity? (please circle)*
 - ☐ White British (e.g. White Scottish, English, Welsh, Northern Irish)
 - ☐ White Other
 - ☐ Asian British (e.g. Asian Scottish, English, Welsh, Northern Irish)
 - ☐ Asian Other
 - ☐ Black British (e.g. Black Scottish, English, Welsh, Northern Irish)
 - ☐ Black Other
 - ☐ Other (please write here)
4. *Are you fluent in English (please circle)* **Yes** / **No**
5. *Have you ever received professional support to help with your emotions?*
(e.g. attended counselling, taken medication to help with your emotions/feelings, visited a clinical psychologist/ CAMHS)
Yes / **No**

Appendix H: Ethical Approval Letters

- H1) University of Edinburgh



- H2) *South Lanarkshire Council*



Education Resources
Executive Director **Jim Gilhooly**
Curriculum & Quality Improvement Service

Ciara Gill
Trainee Clinical Psychologist
Child & Adolescent Mental Health Team
Airbles Road Centre
49 Airbles Road
Motherwell
ML1 2TJ

Our ref: EDU/RESEARCH/TK
Your ref:
If calling ask for: Tracy Kerr
Phone: 01698 454434
Date: 08 January 2014

Dear Ms Gill

Access to Undertake Research

Thank you for your recent application form, requesting access to undertake research with South Lanarkshire Council, Education Resources.

I am pleased to advise you that approval has been granted (with some suggested improvements) for you to contact the headteachers of schools in South Lanarkshire to ask if they will take part in your project.

The suggested improvements are:

- Salutation in guardian/parental invitation letter should read "Dear Parent/Guardian", rather than "To whom it may concern".
- Consider the possibility that some participants may have literacy difficulties, and might require consent forms/information sheets/questionnaires to be read to them.

When you contact the headteachers you should enclose a copy of this letter as proof of authorisation. Each headteacher will have the final veto over whether or not his or her school shall participate.

You should ensure complete confidentiality of both establishments and individuals at all times.

It will be necessary for you to have parental consent for pupils to take part in your project (opt-out) and to assist you with this I enclose a copy of the form that you should use and a copy of the notes on parental consent procedure. We would also request that you provide us with a copy of your research findings once completed.

.../cont

Council Offices, Almada Street, Hamilton ML3 0AE Phone: 01698 454434 Fax: 01698 454465
Text Phone: 01698 454039 Email: @southlanarkshire.gsx.gov.uk



**INVESTORS
IN PEOPLE**

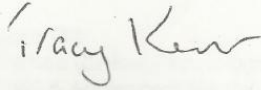


**Healthy
Working
Lives**

I:\Quality\QUALITY MANAGEMENT STRATEGY\MANAGEMENT INFORMATION\RESEARCH\2013-2014\Ciara Gill\Letter Approval.doc

I wish you every success with your research and if I can be of any further assistance please contact me at the address below.

Yours sincerely



Tracy Kerr
Management Information Assistant

- H3) *North Lanarkshire Council*



Our Ref:
Your Ref:
Contact: Philip McGhee
Tel: 01236 812235
Fax: 01236 812575
E Mail: mcgheep@northlan.gov.uk
Date: 19 February 2014

Ciara Gill
Child and Adolescent Mental Health Team
Airbles Road Centre
49 Airbles Rd
Motherwell
ML1 2TJ

Learning & Leisure Services
Municipal Buildings
Kildonan Street
Coatbridge ML5 3BT
www.northlanarkshire.gov.uk

Dear Ciara

Research Project: The relationship between self-compassion and social anxiety in adolescents

Thank you for returning the completed application form and the additional information regarding your project. I am pleased to inform you that approval has been granted at Authority level for you to approach the headteachers of our secondary schools, to ask if they are willing to participate in your project.

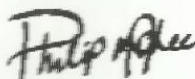
When you contact the head involved you should enclose a copy of this letter as confirmation of North Lanarkshire Council's authorisation but I would remind you that it is the head of establishment who has the final veto over whether her school will participate in the research project.

I acknowledge a copy of your PVG certificate and remind you that the certificate and a copy of the letter to accompany the parental consent form should be available to the head of establishment.

When you have completed your research you should provide the school, if requested, with a copy of your findings.

May I take this opportunity to wish you every success with your project. If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely



Philip McGhee
Quality Improvement Officer

Appendix I: Recruitment Letter to Head Teacher and Teacher
Information Sheet



Child and Adolescent Mental Health Services,
Airbles Road,
Motherwell,
ML1 2TJ.
Tel: 01698 269 651

School of Health in Social Science,
The University of Edinburgh,
EH8 9AG.
Tel: 0131 651 3935

Enquiries to: Ciara Gill

Address of school

Dear Mr/ Mrs/ Ms,

I am a Trainee Clinical Psychologist at the University of Edinburgh. I am writing to ask if you would be interested in supporting our new research project.

The research aims to look at the concept of self-compassion in adolescents (14 -18 years) and how this may affect their emotional wellbeing, in particular in social situations. Self-compassion is a central component of Compassion Focused Therapy which aims to build upon specific positive abilities that are linked to well-being. The relationship between self-compassion and psychological well-being has been demonstrated in adults, however less is known about its effect in adolescents.

We would like your school to assist us in conducting this research. I would hope to meet with your students on two occasions:

- 1) A brief meeting in which to introduce the project to your students and provide them with information so that they can make an informed decision on whether they would like to take part.
- 2) A data collection session in which participants would be asked to complete a set of questionnaires. This session will last about 20 - 30 minutes. This session can be completed electronically or by paper and pen dependant on your facilities.

We would be grateful if you could advise/ allocate times for me to meet class groups, and provide a suitable space (e.g. computer room/ classroom) for these brief meetings. *We do not require any other resources.* In terms of timeline we aim to conduct this study between January and May 2014 at a time that is convenient to your school.

This project has been approved by Educational Resources of North/ South Lanarkshire Council (see enclosed permission) and the Research Ethics Committee of the University of Edinburgh. We believe that our study is consistent with the principles of the Curriculum of Excellence, in particular supporting students to expand their capacities as "confident individual" through enhancing their "emotional and mental well-being", self-awareness, and social skills.

I would be happy to come and meet with you to explain the study in further detail. I hope that this study will benefit your school and students by raising awareness of the construct of self-compassion and promoting coping and resilience. If you would find it helpful, I would be happy to come and give an educational talk about psychology, university or other topics that may be of interest to your students and staff.. I have additionally enclosed an information sheet for class/year teachers.

If you have any questions about the research or would like to arrange a time to meet, please contact me by phone on **01698 269 651** or by email **ciara.gill@nhs.net**

Yours sincerely,

Ciara Gill

School Invitation Sheet date of issue: **[DATE]**
School Invitation Sheet version number: **Version 1 School**



The relationship between self-compassion and social anxiety in adolescents

Main Researcher: Ciara Gill, Trainee Clinical Psychologist

TEACHER/ SCHOOL INFORMATION SHEET

Thank you for your interest in this study. Before the commencement of the study, it is important that you feel aware of what the research involves for yourself, your school and your students. Please take time to read the information below. Please feel free to ask me any questions (see contact information below).

What is the purpose of the study?

Psychologists are keen to find out how people cope with difficult situations as we know that these things affect our psychological wellbeing. We know that people are different in how kind they are to themselves. Some people blame themselves when they find something hard while others can be more forgiving. We are trying to find out how teenagers treat themselves when they face difficult experiences, in particular social situations.

We want to learn if treating ourselves with kindness and compassion would enhance our psychological wellbeing and our ability to cope in social situations. This has been researched with adults but we would like to see if self-compassion offers the same benefits to teenagers. We hope to use our research findings to help us understand what may be a helpful way to support young people to cope with stressful situations, especially those who tend to become anxious in social situations.

How do we want you to help?

As outlined in the cover letter, I would hope to meet with your students on two occasions:

- 1) A brief meeting in which to introduce your students to the project and provide them with information so as they can make an informed decision on whether they would like to take part.
- 2) A data collection session in which participants would be asked to complete a set of questionnaires. This session will last about 20 minutes. This session can be completed electronically or by paper and pen dependant on your facilities.

We would be grateful if you could advise/ allocate times for me to meet class groups, and provide a suitable space (e.g. computer room/ classroom) for these brief meetings. *We do not require any other resources.* In terms of timeline we aim to conduct this study between January and December 2014 at a time that is convenient to your school.

What will students need to do if they take part?

The study involves participants answering a set of questionnaires about their thoughts, behaviours and feelings.

Will students' answers be anonymous and confidential?

Yes. All questionnaires will be stored without names and stored separately from consent forms. The only people who will see the information are the researcher and her supervisors. It is necessary for us to retain original data for up to five years. After this, all data will be destroyed. *School staff will not have access to questionnaires completed by students.* Names of schools and students will not be identified in any written report, publications or presentations.

Will it be safe for students to take part in the research?

We do not anticipate that your students will feel upset after completing the questionnaires. The questionnaires we have chosen have been used in research with teenagers. However, it is possible that some teenagers may recognise that they have been feeling sad or worried a lot and they may wish to seek support.

This project has been approved by the Research Ethics Committees of the University of Edinburgh. We have also obtained permission from North and South Lanarkshire Council.. All participants will be provided with a list of resources to ensure that they are aware of relevant support if they wish to access them. A resource list will also be provided to each parent/guardian and to each class teacher.

Do students have to take part?

No. Firstly, each student must decide if they wish to take part in the study. Secondly, if they are under 16 their parent/guardian must indicate if they agree with this decision. **If they are happy for their child to take part, they do not need to do anything.** However, if they **do not want** their child to take part, they should return a completed opt-out form to the school.

Participants will be advised that participation is completely voluntary and that they can withdraw at any time without having to give a reason. A decision to stop at anytime or a decision not to take part will not affect your students in any way.

What are the possible benefits of taking part?

It is believed that this line of research will inform the development of effective ways to improve the emotional and social wellbeing of adolescents. It is hoped that this project may raise awareness of the construct of self-compassion and promote coping and resilience, providing an alternative stance to adolescent difficulties. Through participating in the research, students will also gain an insight into psychological research that may boost their interest in social science and psychology.

As a token of thanks, each participant will be entered into a lucky draw for one of five £10 Amazon vouchers. The result of this draw will be announced on completion of the study in all schools.

What will happen to the results of the study?

The results will be included in a research project submitted to the University of Edinburgh by the researcher (Ciara Gill). The name of your school and your students will not be identified in any publication. Each participating school will be provided with a short summary report of the research findings.

If you are interested in supporting our research or would like to find out more about it, please do not hesitate to contact me.

Thank you for your time,

Ciara Gill
Trainee Clinical Psychologist

Contact Information:

Ciara Gill, Trainee Clinical Psychologist, Child and Adolescent Mental Health Services, 49 Airbles Road, Motherwell, ML1 2TJ.

Email: ciara.gill@nhs.net Tel: 01698 269 651

Research Supervisors:

Dr. Stella Chan, Clinical Psychology, University of Edinburgh, EH8 9AG.

Email: stella.chan@ed.ac.uk Tel: 0131 651 3935

Dr. Charlotte Williams, Clinical Psychology, Child and Adolescent Mental Health Services, 194 Quarry Street, Hamilton, ML3 6QR.

Email: Charlotte.Williams@lanarkshire.scot.nhs.uk Tel: 01698 426 753

Information Sheet date of issue: **[DATE]**

Information Sheet version number: **Version 3SCHOOL**

Appendix J: Script for Introductory Brief

Briefing Session

Firstly, I would like to thank Mrs/ Mr for allowing me to come to meet with you today. First I will introduce myself.

My name is Ciara Gill and I am a Trainee Clinical Psychologist at the University of Edinburgh. I am currently in my 2nd year training so that when I am finished I can work with people who at times don't feel well, struggle to cope or have problems in managing stress. A lot of people do not realise that another part of a psychologists job is also to undertake research.

Any ideas why?

The aim of research is to help us to determine that we are using the most effective methods when people come to see us in Clinic. As you can imagine there are many ways of working with people because every single person is different, however there are also patterns of things that work and that is what we try and determine

So, the reason behind my study?

My study follows on from that but I wanted to focus on people of your age - adolescents (in particular those aged 14-18). I have chosen adolescents as I really enjoy working with them but also if people can get the appropriate help early on they can develop good ways of coping which can protect them in the future. I am hoping to study how adolescents cope and treat themselves in difficult situations, in particular social situations, so for example how many people would feel comfortable if I asked them to come up and speak just now!!! My aim is to understand what might be useful ways to support young people who become anxious in social situations. I have chosen this as it is something that every teenager and most adults experience and for the majority it is a completely normal experience and can push us through to get things done and can help us to develop confidence. However we know that people are different in how kind they are to themselves at times of stress, for example a first date, a sleep over, parties - with some people being very forgiving while as others can be very critical which can make school and social life extremely difficult and stressful. The reason I have come to speak to you is because just like your teachers I am no longer a teenager and therefore would only be guessing or assuming that I know how teenagers cope in social situations nowadays. I think that it is extremely important to have teenagers help us in identifying what these experiences are like as you are the only ones that know.

What my study involves?

1. If you would like to help me in my research you will be asked to complete a number of questionnaires about your thoughts, behaviour and emotions in social settings. This will take roughly 15 mins to complete and you will only have to do this once.
2. It's important that you know that you know there are no right and wrong answers to questions.
3. It is also important that you know answers will be anonymous and that no one other than myself and my supervisors will know who filled in what. Your results will not be discussed with the school, your parents or anyone else. It's also important that you know now that you will not receive feedback on your specific responses and that I will be looking at answers as a group as it would not be that helpful to look at things one by one
4. Similarly it is important that you know that taking part in the study is your choice and if it is not something you feel comfortable doing you should not do so and you won't be asked to give a reason. If you are under 16 we also have to inform your parents about the study and give them an opportunity to let us know if they do not want you to partake. If your parents would like you to partake but you don't want to, you do not have to. There will be no consequence for not taking part. Similarly if you decide to take part but then do not feel comfortable with the questions when you see them you can stop at anytime.
5. Everyone that takes part will be provided with a list of support organisations and helplines on completion of the project in case they would like to access supports. I will leave some copies of these with your PSE teacher for anyone who has concerns prior to the research or for anyone who would like a list of resources but does not wish to take part in the study.

What will happen with the results?

Once I have collected all the data I will collate it. I will then write a research project and submit it the University of Edinburgh. I also hope to publish my research in a journal i.e. a scientific magazine. No one's names will be noted in the research. I would also like to come back and let you know what you have helped me find out about adolescents in social situations

So what you need to do?

- You need to take a copy of the information sheet and read this carefully
- If you are under 16 you need to give a copy of the information sheet to your parents and a consent form. We would advise that people over 16 do this as well and have a chat with your parents/ guardian about the project
- If your parent is not happy with you taking part in the study we would ask you to return the consent form to myself or your PSE teacher. If your parents have any questions my details are on the information sheet
- Other than that you just need to be in school on the day of data collection at which time we will fill in the questionnaires.

To say thanks

- All participants who take the time to help with the project will be entered into a prize draw in which they could win one of 5 £10 Amazon vouchers. Once all participants from all schools have completed the study the raffle will be completed

Any questions!!!

Hands up

- Anyone aged 14-15
- Those aged 16-18

- *K1) Consent forms over 16.*



The relationship between self-compassion and social anxiety in adolescents

Main Researcher: Ciara Gill, Trainee Clinical Psychologist

PARTICIPANT INFORMATION SHEET

Thank you for your interest in this study. Before deciding if you want to take part, it is important that you understand what this research involves. Please take time to read **all the information below**. Feel free to talk about it with your parents and a teacher if you wish. Please feel free to ask any questions.

What is the purpose of the study?

One of the main things psychologists research is how people think, act and feel. Psychologists are keen to find out how people cope with difficult situations as we know that these things affect our psychological wellbeing. We know that people are different in how kind they are to themselves. Some people can blame themselves when they find something hard while others can be more forgiving and kind. We are trying to find out how teenagers treat themselves when they face difficult experiences, in particular social situations. This study will help us understand what may be a useful way to support young people who become anxious in social situations e.g. when meeting new people, speaking in class or going out with friends.

Who can take part?

You can take part if you are 14 to 18 years old attending schools in Lanarkshire. If you want to take part, you will be asked to complete a consent form. As you are 16 years old or older, we do not require parental consent. However, please feel free to discuss your participation with a parent or guardian.

What will I have to do if I take part?

The study involves answering a set of questionnaires, which ask about your thoughts, behaviours and feelings. We will arrange a class for you to do this at school. It will take about 20 minutes of your time.

Will my answers be kept secret and confidential?

Yes. We will not ask you to put your name on any questionnaires. All questionnaires will be stored separately from your consent forms. The only people who will see the information are the researcher and her supervisors. We need to keep all questionnaires for five years. After that, all the questionnaires will be destroyed.

Do I have to take part?

No. It is up to you whether you wish to take part or not. You can change your mind at anytime. You can stop without giving a reason and your questionnaires will be destroyed. This will not affect you in any way.

What if this leaves me with any worries or wishing to seek support?

We do not anticipate that you will feel upset after completing the questionnaires. However, some questions ask about how you feel and this can be upsetting, particularly if you have been feeling sad or worried a lot. On completion of the study you will be provided with a list of support organisations and helplines. If you do not wish to partake in the study but would like to receive a copy of this list, please contact me at the details below or ask your teacher.

What are the possible benefits of taking part?

This study will help us to understand more about how young people think and feel. As a token of thanks, you will be entered into a lucky draw to win one of five £10 Amazon vouchers. The result of the draw will be announced on completion of the study in all schools.

What will happen to the results of the study?

The results will be included in a research project submitted to the University of Edinburgh by the researcher (Ciara Gill). Your name will not appear in any publication that might be produced for this research. When the research is finished we will send a summary of results to your school.

What if there is a problem?

This study has been approved by North Lanarkshire Council, South Lanarkshire Council and the University of Edinburgh. The questionnaires we ask you to do have all been used in previous research. Therefore, we do not think that there will be any risk for you to take part in this study. However, if you have any concerns or worries, please do not hesitate to contact me or my supervisors (see contact information below). We will do our best to answer your questions. If you are still unhappy and would like to raise a formal complaint, please contact the Research Ethics Committee of the School of Health in Social Science, University of Edinburgh (Tel: 0131 651 3969; Address: Teviot Place, Edinburgh, EH8 9AG). You may also find it helpful to discuss this with your parents or teachers.

Please keep this sheet and think about whether you would like to take part. I will be back in school next week with the questionnaires. If you choose to take part we will complete them then.

Thank you for your time,

Ciara Gill,
Trainee Clinical Psychologist

Contact Information:

Ciara Gill, Trainee Clinical Psychologist, Child and Adolescent Mental Health Services, 49 Airbles Road, Motherwell, ML1 2TJ.

Email: ciara.gill@nhs.net Tel: 01698 269 651

Research Supervisors:

Dr. Stella Chan, Clinical Psychology, University of Edinburgh, EH8 9AG.

Email: stella.chan@ed.ac.uk Tel: 0131 651 3935

Dr. Charlotte Williams, Clinical Psychology, Child and Adolescent Mental Health Services, 194 Quarry Street, Hamilton, ML3 6QR.

Email: Charlotte.Williams@lanarkshire.scot.nhs.uk Tel: 01698 426 753

Information Sheet date of issue: **[DATE]**

Information Sheet version number: **Version 3 16+**

- K2) *Consent Forms under 16*



The relationship between self-compassion and social anxiety in adolescents

Main Researcher: Ciara Gill, Trainee Clinical Psychologist

PARTICIPANT INFORMATION SHEET

Thank you for your interest in this study. Before deciding if you want to take part, it is important that you understand what this research involves. Please take time to read **all the information below**. Feel free to talk about it with your parents and a teacher if you wish. Please feel free to ask any questions.

What is the purpose of the study?

One of the main things psychologists research is how people think, act and feel. Psychologists are keen to find out how people cope with difficult situations as we know that these things affect our psychological wellbeing. We know that people are different in how kind they are to themselves. Some people can blame themselves when they find something hard while others can be more forgiving and kind. We are trying to find out how teenagers treat themselves when they face difficult experiences, in particular social situations. This study will help us understand what may be a useful way to support young people who become anxious in social situations e.g. when meeting new people, speaking in class or going out with friends.

Who can take part?

You can take part if you are 14 to 18 years old attending schools in Lanarkshire. If you want to take part, you will be asked to complete a consent form.

As you are under 16 we will provide you with information to give to your parents. If your parent/ guardian **does not want** you to partake in the research study they should complete the enclosed opt-out form which you should return to the school. If they are happy for you to take part they do not need to do anything.

What will I have to do if I take part?

The study involves answering a set of questionnaires, which ask about your thoughts, behaviours and feelings. We will arrange a class for you to do this at school. It will take about 20 - 30 minutes of your time.

Will my answers be kept secret and confidential?

Yes. We will not ask you to put your name on any questionnaires. All questionnaires will be stored separately from your consent forms. The only people who will see the information are the researcher and her supervisors. We need to keep all questionnaires for five years. After that, all the questionnaires will be destroyed.

Do I have to take part?

No. It is up to you whether you wish to take part or not. You can change your mind at anytime. You can stop without giving a reason and your questionnaires will be destroyed. This will not affect you in any way.

What if this leaves me with any worries or wishing to seek support?

We do not anticipate that you will feel upset after completing the questionnaires. However, some questions ask about how you feel and this can be upsetting, particularly if you have been feeling sad or worried a lot. On completion of the study you will be provided with a list of support organisations and helplines. If you do not wish to partake in the study but would like to receive a copy of this list, please contact me at the details below or ask your teacher.

What are the possible benefits of taking part?

This study will help us understand more about how young people think and feel. As a token of thanks, you will be entered into a lucky draw to win one of five £10 Amazon vouchers. The result of the draw will be announced on completion of the study in all schools.

What will happen to the results of the study?

The results will be included in a research project submitted to the University of Edinburgh by the researcher (Ciara Gill). Your name will not appear in any publication that might be produced for this research. When the research is finished we will send a summary of results to your school.

What if there is a problem?

This study has been approved by North Lanarkshire Council, South Lanarkshire Council and the University of Edinburgh. The questionnaires we ask you to do have all been used in previous research. Therefore, we do not think that there will be any risk for you to take part in this study. However, if you have any concerns or worries, please do not hesitate to contact me or my supervisors (see contact information below). We will do our best to answer your questions. If you are still unhappy and would like to raise a formal complaint, please contact the Research Ethics Committee of the School of Health in Social Science, University of Edinburgh (Tel: 0131 651 3969; Address: Teviot Place, Edinburgh, EH8 9AG). You may also find it helpful to discuss this with your parents or teachers.

Please keep this sheet and think about whether you would like to take part. I will be back in school next week. If you choose to take part, and if your parents are happy for you to do so, we will complete the questionnaires next week..

Thank you for your time,

Ciara Gill,
Trainee Clinical Psychologist

Contact Information:

Ciara Gill, Trainee Clinical Psychologist, Child and Adolescent Mental Health Services, 49 Airbles Road, Motherwell, ML1 2TJ.

Email: ciara.gill@nhs.net Tel: 01698 269 651

Research Supervisors:

Dr. Stella Chan, Clinical Psychology, University of Edinburgh, EH8 9AG.

Email: stella.chan@ed.ac.uk Tel: 0131 651 3935

Dr. Charlotte Williams, Clinical Psychology, Child and Adolescent Mental Health Services, 194 Quarry Street, Hamilton, ML3 6QR.

Email: Charlotte.Williams@lanarkshire.scot.nhs.uk Tel: 01698 426 753

Information Sheet date of issue: **[DATE]** Information Sheet version number: **Version 3 14-15**

Appendix L: Parental Information Sheet and Cover Letter



Child and Adolescent Mental Health Services,
Airbles Road,
Motherwell,
ML1 2TJ.
Tel: 01698 269 651

School of Health in Social Science,
The University of Edinburgh,
EH8 9AG.
Tel: 0131 651 3935
Enquiries to: Ciara Gill

To whom it may concern,

Your child has been invited to take part in a research study which looks at how young people deal with social situations. We are going to explore how this affects their overall wellbeing. We are inviting all students aged 14-18 to take part.

When working with young people under the age of 16, it is obligatory that their parents / guardians be informed of the research and given the opportunity to opt out. Before you decide whether you would like your child to partake in this research, it is important to understand why the research is being done, and what it will involve. I have **enclosed an information sheet** about the research study and an **opt-out consent form**. Please read these carefully, and take time to decide whether you are happy for your child to take part.

If you are happy for your child to take part, you do not need to do anything. However, if after reading the enclosed information about the study, you decide that you **do not want** your child to take part, please complete the enclosed form and ask your child to return it to his /her school. If the opt-out consent form is not returned then we will assume that you are happy for your child to take part. We would encourage you to discuss this decision with your child.

Children aged 16 and over do not require parental consent.

It is important to note that each young person who wants to take part will also be asked to sign a consent form. If your child states that they **do not want** to take part in the study, they will **not** be involved in any future stage of research.

If you have any questions about the research, please contact me by phone on **01698 269 651** or by email **ciara.gill@nhs.net**

Thank you for considering your child's participation,

Yours sincerely,

Ciara Gill

Trainee Clinical Psychologist

Cover Sheet Guardian Consent date of issue: **[DATE]**

Cover Sheet version number: **Version 2 Guardian**

The relationship between self-compassion and social anxiety in adolescents



Main Researcher: Ciara Gill, Trainee Clinical Psychologist

PARENTS/ GUARDIAN INFORMATION SHEET

Your child has expressed an interest in taking part in our research study. Before deciding if you are happy for your child to take part, it is important that you understand what this research involves. Please take time to read all the information below. Please feel free to ask me any questions (see contact information below).

Who can take part?

Teenagers can take part if they are 14 to 18 years old attending schools in Lanarkshire.

What is the purpose of the study?

One of the main things psychologists research is how people think, act and feel. Psychologists are keen to find out how people cope with difficult situations as we know that these things affect our wellbeing. We know that people are different in how kind they are to themselves. Some people blame themselves when they find something hard while others can be more forgiving and kind. We are trying to find out how teenagers treat themselves when they face difficult experiences, in particular social situations. This study will help us understand what may be a useful way to support young people who become anxious in social situations.

What will my child have to do if he / she takes part?

The study involves your child completing a consent form, giving basic demographic information and answering a set of questionnaires. These questionnaires ask about their thoughts, feelings and behaviours. We will arrange a class for them to do this at school. It will take about 20 – 30 minutes of their time.

Will my child's answers be anonymous and confidential?

Yes. We will not ask your child to put their name on any questionnaires. All questionnaires will be stored separately from consent forms. The only people who will see their responses are the researcher and her supervisors. We need to keep all the questionnaires for up to five years. After that, all the questionnaires will be destroyed securely.

Does your child have to take part?

No. Firstly, your child must decide if they wish to take part in the study. Secondly, if your child is under 16 you must indicate if you agree with this decision.

If you are happy for your child to take part, you do not need to do anything. However, if you **do not want** your child to take part, please complete the enclosed opt-out form and ask your child to return it to their school.

If your child decides to take part then later changes their mind, they can stop at anytime without having to give a reason. A decision to stop at anytime or a decision not to take part will not affect your child in any way.

What are the possible benefits of taking part?

This study will help us to understand how young people think and feel. This line of research will eventually help us improve the emotional and social wellbeing of adolescents. As a token of thanks, your child will be entered into a lucky draw for one of five £10 Amazon vouchers. The result of this draw will be announced on completion of the study in all schools.

What will happen to the results of the study?

The results will be included in a research report submitted to the University of Edinburgh by the researcher (Ciara Gill). Your child will **not** be identified in any reports or publications that might be produced for this research. When the research is finished we will send an overall summary of results to your child's school but again your child will not be identified in any way.

What if there is a problem?

This study has been approved by North Lanarkshire Council, South Lanarkshire Council and the University of Edinburgh. If you have any concerns or worries, please do not hesitate to contact me or my supervisors (see contact information below). We will do our best to answer your questions. If you are still unhappy and would like to raise a formal complaint, please contact the Research Ethics Committee of the School of Health in Social Science, University of Edinburgh (Tel: 0131 651 3969; Address: Teviot Place, Edinburgh, EH8 9AG).

What if this leaves my child with any worries or wishing to seek support?

We do not anticipate that your child will feel upset after completing the questionnaires. The questionnaires we have chosen have been used in research with teenagers. However, it is possible that some teenagers may recognise that they have been feeling sad or worried a lot and they may wish to seek support. You could:

- *Phone* one of the following helplines so that you can discuss your or your child's feelings with a qualified and supportive individual
 - **YoungMinds Parents Helpline**
This is a free confidential helpline offering information and advice, to any adult worried about the emotional problems, behaviour or mental health of a child or young person. This service is available Monday-Friday from 9:30a.m. to 4:30 p.m.
 - *Helpline:* 0808 802 5544
 - **Samaritans**
This is a free, private and confidential 24 hour helpline for children, adolescents and adults. Phonecalls to Samaritans do appear on a phonebill. If you find talking about your feelings difficult you can also email Samaritans
 - *Helpline* - 08457 90 90 90 or *Email:* jo@samaritans.org
- Advise your child to speak to their Pupil Support Teacher who can arrange a meeting with a school counsellor or you could call the CAMHS Youth Counselling Service direct on **01236 703010**
- Speak to your doctor - if you would like your child to see someone who can help them with their problems, your GP can arrange this
- On completion of the study your child will also be provided with a list of available adolescent helplines and websites with specific information on improving emotional wellbeing and managing anxiety in social situations.

Please keep this sheet and think about whether you would like your child to take part. If you are happy for your child to take part you do not need to do anything. I will be back in your child's school next week to collect any opt-out consent forms. If you are happy for your child to take part we will complete questionnaires then.

Thank you for your time,

Ciara Gill
Trainee Clinical Psychologist

Contact Information:

Ciara Gill, Trainee Clinical Psychologist, Child and Adolescent Mental Health Services, 49 Airbles Road, Motherwell, ML1 2TJ. Email: ciara.gill@nhs.net Tel: 01698 269 651

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Dr. Stella Chan, Clinical Psychology, University of Edinburgh, EH8 9AG.

Email: stella.chan@ed.ac.uk Tel: 0131 651 3935

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Information Sheet date of issue: **[DATE]** Information Sheet version number: **Version 4 Guardian**

Appendix M: Opt Out Consent Forms

- M1) - *South Lanarkshire Council*

| CONSENT FORM | |
|--|--|
| FOR PERMISSION FOR A SCHOOL AGE CHILD TO PARTICIPATE IN A RESEARCH STUDY | |
| To be completed by the child's parent or guardian | |
| Please read the following notes carefully before completing the form. | |
| This form must be attached to a covering letter (which you may detach and keep) and should only be completed and returned IF YOU ARE UNWILLING to have your child participate in the research study described in the attached letter. | |
| If you do not complete and return the form this will be taken as implying that you WISH your child to participate in the study. | |

| ONLY COMPLETE AND RETURN THIS FORM IF YOU DO NOT WISH YOUR CHILD TO PARTICIPATE IN THE RESEARCH STUDY | |
|--|-------------|
| PLEASE USE BLOCK CAPITALS | |
| I, (INSERT YOUR NAME) | _____ |
| BEING THE (INSERT YOUR RELATIONSHIP TO THE CHILD, E.G. MOTHER/FATHER/GUARDIAN) | _____ |
| OF (INSERT CHILD'S NAME WITH CLASS/REG) | _____ |
| OF (INSERT NAME OF SCHOOL) | _____ |
| DO NOT GIVE PERMISSION FOR MY CHILD TO PARTICIPATE IN THE RESEARCH STUDY DESCRIBED IN THE LETTER ATTACHED. | |
| SIGNATURE: _____ | DATE: _____ |

Neg/Con

NORTH LANARKSHIRE COUNCIL

Learning and Leisure Services

CONSENT FORM

FOR PERMISSION FOR A SCHOOL AGE CHILD TO PARTICIPATE IN A RESEARCH

To be completed by the child's parent or guardian

Please read the following notes carefully before completing the form

This form must be attached to cover letter (which you may detach and keep),
and should only be completed and returned (**IF YOU ARE UNWILLING**) to have your
child participate in the research described in the research study described in the attached letter.

If you do not complete and return the form this will be taken as implying that you wish your child to participate
in the study.

ONLY COMPLETE AND RETURN THIS FORM IF YOU DO NOT WISH YOUR CHILD TO PARTICIPATE IN
THE RESEARCH STUDY

PLEASE USE BLOCK CAPITALS

| | |
|--|--------------|
| I, (insert your name) | |
| BEING THE (insert your relationship to the child, e.g. mother/father/guardian) | |
| OF (insert class or form) | |
| OF (Insert name of school) | |
| <p>DO NOT GIVE PERMISSION FOR MY CHILD TO PARTICIPATE IN THE RESEARCH STUDY DESCRIBED IN THE LETTER ATTACHED.</p> | |
| SIGNATURE: | DATE: |

Appendix N: Questionnaire Pack

The relationship between self-compassion and social anxiety in adolescents
(<https://www.survey.ed.ac.uk/socanxselfcompassion>)



Welcome

Welcome to the Questionnaire Section of this study. As explained we are trying to find out how teenagers treat themselves when they face difficult experiences, in particular social situations. You will now be provided with a range of questions in relation to this.

The survey is completed anonymously (without your name), and takes around 20 minutes to complete. Remember there are no right or wrong answers to any of the questions. Please take your time and try and answer as honestly as you can. When completing questionnaires like this it is often good to follow your gut reaction and not to over think your responses.

If you have any questions, please raise your hand and I will try my best to answer.

Click continue to start the first questionnaire

Regards
Ciara Gill
Trainee Clinical Psychologist

Will my answers be kept secret and confidential?

Yes. We will not ask you to put your name on any questionnaires. All data will be stored separately from your consent forms. The only people who will see the information are the researcher and her supervisors. We need to keep all data for five years. After that, all the questionnaires will be destroyed.

Demographics

1. Participant Number

2. Age.....

3. Sex (please circle) **Male** / **Female**

4. *How would you consider your ethnicity? (please circle)*

- ☐ White British (e.g. White Scottish, English, Welsh, Northern Irish)
- ☐ White Other
- ☐ Asian British (e.g. Asian Scottish, English, Welsh, Northern Irish)
- ☐ Asian Other
- ☐ Black British (e.g. Black Scottish, English, Welsh, Northern Irish)
- ☐ Black Other
- ☐ Other (please write here)

5. *Are you fluent in English (please circle)* **Yes** / **No**

6. *Have you ever received professional support to help with your emotions?*
(e.g. attended counselling, taken medication to help with your emotions/feelings,
visited a clinical psychologist/ CAMHS)

Yes / **No**

Questionnaire 1 - Self-Compassion Scale (Neff, 2003)

How I Typically Act Towards Myself in Difficult Times

Please read each statement carefully before answering. Indicate how often you behave in the stated manner, using the following scale:

| | 1 (Almost Never) | 2 | 3 | 4 | 5 (Almost Always) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. I'm disapproving and judgmental about my own flaws and inadequacies. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. When I'm feeling down I tend to obsess and fixate on everything that's wrong. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. When things are going badly for me, I see the difficulties as part of life that everyone goes through. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. I try to be loving towards myself when I'm feeling emotional pain. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. When I fail at something important to me I become consumed by feelings of inadequacy. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. When times are really difficult, I tend to be tough on myself. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. When something upsets me I try to keep my emotions in balance. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. I'm intolerant and impatient towards those aspects of my personality I don't like. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. When I'm going through a very hard time, I give myself the caring and tenderness I need. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| m. When I'm feeling down, I tend to feel like most other people are probably happier than I am. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| n. When something painful happens I try to take a balanced view of the situation. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| o. I try to see my failings as part of the human condition. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| p. When I see aspects of myself that I don't like, I get down on myself. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| q. When I fail at something important to me I try to keep things in perspective. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

The relationship between self-compassion and social anxiety in adolescents
<https://www.surveymed.ac.uk/socanxselfcompassion>



| | 1 (Almost Never) | 2 | 3 | 4 | 5 (Almost Always) |
|--|------------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| r. When I'm really struggling, I tend to feel like other people must be having an easier time of it. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| s. I'm kind to myself when I'm experiencing suffering. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| t. When something upsets me I get carried away with my feelings. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| u. I can be a bit cold-hearted towards myself when I'm experiencing suffering. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| v. When I'm feeling down I try to approach my feelings with curiosity and openness. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| w. I'm tolerant of my own flaws and inadequacies. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| x. When something painful happens I tend to blow the incident out of proportion. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| y. When I fail at something that's important to me, I tend to feel alone in my failure. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Questionnaire 2 - Social Phobia Inventory (Davidson, 2000)

Social Phobia Inventory

Please check how much the following problems have bothered you during the **PAST WEEK**. Mark only one box for each problem, be sure to answer all items.

| | Not at All | A little Bit | Somewhat | Very Much | Extremely |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. I am afraid of people in authority | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. I am bothered by blushing in front of people | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Parties and social events scare me | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. I avoid talking to people I don't know. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Being criticized scares me a lot. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. I avoid doing things or speaking to people for fear of embarrassment | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Sweating in front of people causes me distress | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. I avoid going to parties | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. I avoid activities in which I am the center of attention | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. Talking to strangers scares me | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. I avoid having to give speeches | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. I would do anything to avoid being criticized | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| m. Heart palpitations bother me when I am around people | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| n. I am afraid of doing things when people might be watching | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| o. Being embarrassed or looking stupid are among my worst fears | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| p. I avoid speaking to anyone in authority | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| q. Trembling or shaking in front of others is distressing to me | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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Questionnaire 3 - Social Anxiety Scale for Adolescents (LeGreca, 1998)

Social Anxiety Scale for Adolescents - Fear of Negative Evaluation Subscale

This is not a test, there are no right or wrong answers. Please answer each item as honestly as you can.

Use these numbers to show HOW MUCH YOU FEEL something is true for you:

| | 1 (Not at All) | 2 (Hardly Ever) | 3 Sometimes | 4 (Most of the Time) | 5 (All the Time) |
|--|-----------------------|-----------------------|-----------------------|-------------------------|-----------------------|
| a. I worry about being teased. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. I feel that peers talk about me behind my back. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. I worry about what others think of me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. I'm afraid that others will not like me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. I worry about what others say about me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. I worry that others don't like me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. I feel that others make fun of me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. If I get into an argument, I worry that the other person will not like me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Questionnaire 4 - Cognitive Avoidance Questionnaire (Gosselin et al, 2002)

Cognitive Avoidance Questionnaire

People react differently to certain types of thoughts. Using the following scale, please indicate to what extent each of the following statements is **typical** of the way that you respond to certain thoughts. Please mark the appropriate number (1 to 5).

| | 1 (Not at all typical) | 2 (A little typical) | 3 (Somewhat typical) | 4 (Very typical) | 5 (Completely typical) |
|---|------------------------------|----------------------------|----------------------------|------------------------|------------------------------|
| a. There are things that I would rather not think about | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. I avoid certain situations that lead me to pay attention to things I don't want to think about | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. I replace threatening mental images with things I say to myself in my mind | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. I think about things that concern me as if they were occurring to someone else | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. I have thoughts that I try to avoid | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. I try not to think about the most upsetting aspects of some situations so as not to be too afraid | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. I sometimes avoid objects that can trigger upsetting thoughts | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. I distract myself to avoid thinking about certain disturbing subjects | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. I avoid people who make me think about things I do not want to think about | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. I often do things to distract myself from my thoughts | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. I think about trivial details so as not to think about important subjects that worry me | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. Sometimes I throw myself into an activity so as not to think about certain things | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| m. To avoid thinking about subjects that upset me, I force myself to think about something else | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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| | 1 (Not at all typical) | 2 (A little typical) | 3 (Somewhat typical) | 4 (Very typical) | 5 (Completely typical) |
|--|------------------------------|----------------------------|----------------------------|------------------------|------------------------------|
| n. There are things I try not to think about. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| o. I keep saying things to myself in my head to avoid visualising scenarios (a series of mental images) that frighten me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| p. Sometimes I avoid places that make me think about things I would prefer not to think about | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| q. I think about past events so as not to think about future events that make me feel insecure | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| r. I avoid actions that remind me of things I do not want to think about | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| s. When I have mental images that are upsetting, I say things to myself in my head to replace the images | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| t. I think about many little things so as not to think about more important matters | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| u. Sometimes I keep myself occupied just to prevent thoughts from popping into my mind | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| v. I avoid situations that involve people who make me think about unpleasant things | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| w. Rather than having images of upsetting events form in my mind, I try to describe the events using an internal monologue (things that I say to myself in my head) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| x. I push away the mental images related to a threatening situation by trying to describe the situation using an internal monologue | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| y. I think about things that are worrying other people rather than thinking about my own worries | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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Questionnaire 5 - The Self Consciousness Scale (Fenigstein, Scheier & Buss, 1975)

The Self Consciousness Scale (Private and Public Subscales)

To take the SCS, read each item carefully and then indicate how well each statement describes you. Use the 0-4 response scale for your answers. Please answer each item as honestly and accurately as possible.

For each item, please choose the number from 0-4 that best indicates how well the item characterises you.

The choices are:

| | 0 (extremely uncharacteristic / not at all like me) | 1 (uncharacteristic/ somewhat unlike me) | 2 (neither characteristic nor uncharacteristic) | 3 (characteristic / somewhat like me) | 4 (extremely characteristic/ very much like me) |
|---|---|---|--|--|---|
| a. I'm always trying to figure myself out. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. I'm concerned about my style of doing things. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Generally, I'm not very aware of myself. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. I reflect about myself a lot. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. I'm concerned about the way I present myself. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. I'm often the subject of my own fantasies | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. I never scrutinize myself. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. I'm self-conscious about the way I look. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. I'm generally attentive to my inner feelings. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. I usually worry about making a good impression. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. I'm constantly examining my motives. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. One of the last things I do before I leave my house is look in the mirror. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| m. I sometimes have the feeling that I'm off somewhere watching myself. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| n. I'm concerned about what other people think of me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| o. I'm alert to changes in my mood. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| p. I'm usually aware of my appearance. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| q. I'm aware of the way my mind works when I work through a problem. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Questionnaire 6 - Mood and Feelings Questionnaire: Short Version (Angold & Costello, 1987)

Mood and Feelings Questionnaire

This questionnaire is about how you might have been feeling or acting **RECENTLY**.

For each question, please select how you have been feeling in **THE PAST TWO WEEKS**.

If a sentence was not true about you, select NOT TRUE.

If a sentence was only sometimes true, check SOMETIMES.

If a sentence was true about you most of the time, check TRUE

| | Not True | Sometimes | True |
|--|-----------------------|-----------------------|-----------------------|
| a. I felt miserable or unhappy. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. I didn't enjoy anything at all. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. I felt so tired I just sat around and did nothing. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. I was very restless. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. I felt I was no good anymore. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. I cried a lot. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. I found it hard to think properly or concentrate. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. I hated myself. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. I was a bad person. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. I felt lonely. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. I thought nobody really loved me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. I thought I could never be as good as other kids. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| m. I did everything wrong. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Questionnaire 7 - Screen for Child Anxiety Related Disorders (Birmaher et al, 1995)

Screen for Child Anxiety Related Disorders (SCARED) - General Anxiety Subscale

Below is a list of sentences that describe how people feel.

Read each phrase and decide if it is "Not True or Hardly Ever True" or "Somewhat True or Sometimes True" or "Very True or Often True" for you.

Then, for each sentence, select the circle that corresponds to the response that seems to describe you **FOR THE LAST 3 MONTHS**.

| | 0 (Not True or Hardly Ever True) | 1 (Somewhat True or Sometimes True) | 2 (Very True or Often True) |
|--|--|---|-----------------------------------|
| a. I worry about other people liking me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. I am nervous. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. I worry about being as good as other kids. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. I worry about things working out for me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. I am a worrier. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. People tell me that I worry too much. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. I worry about what is going to happen in the future. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. I worry about how well I do things. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. I worry about things that have already happened. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

THANK YOU

You have now completed this study. We truly appreciate your time and effort. We hope that you have found this an interesting experience. As we mentioned in the Information Sheet, this study aims to explore how young people treat themselves in difficult situations, in particular in social situations.

There were no right or wrong answers to any of the questionnaires. As in many research studies, it is often more helpful to look at responses as a whole group instead of looking at responses individually. Therefore, we will not be providing scores or feedback to you on your questionnaires.

As a token of thanks, you now have the option of entering your name into a lucky draw for one of five £10 Amazon vouchers. Please fill in the form provided by the researcher and take a list of available support organisations and services.

We would also ask you to be patient and wait for all other students to finish the study before you begin talking.

Thank you again for your time and interest

Ciara Gill
Trainee Clinical Psychologist

Appendix O: Optional Feedback Form

Optional Feedback

Sometimes people like to share their thoughts and ideas about research. This can be very helpful as it can help us improve future research. If you would like to provide feedback, please complete the following:

Did you enjoy taking part in this research project? YES/ NO

Would you recommend your friends to take part in this study? YES/NO

What did you like best about the research?

Comments:

What did you like least about the research?

Comments:

Do you think it is important for adolescents to be involved in research? YES/NO

Comments:

If you have any other comments or suggestions, please tell us here:

Appendix P: Debrief Script

Debrief Session

Thank you to everyone for giving their time today. It is important that everyone knows that I will now look at the data as a group and will not be providing individual answers or scores. If anyone has any particular questions I will be staying around for a little while when we finish.

As I mentioned sometimes if people have been feeling worried, stress or sad questions like those you just completed can make you more aware of your feelings. Because of this I am providing each of you with a list of places where you can find further support if you would like to.

I hope that you have enjoyed taking part in the study and that you have learnt a little bit more about psychology and the types of research we undertake.

Finally before we finish I would like to collect your details for the prize draw, again this is optional. As I explained previously once I have collected data from all schools I will contact your school with the results of the prize draw.

In addition I have provided space for feedback. I am very keen to learn about how you found completing the study or if you have any ideas on how we could make it better in the future. Although psychological research involving teenagers is increasing we have lots more to learn about the best ways of doing this.

Thanks again

Ciara



The relationship between self-compassion and social anxiety in adolescents

Main Researcher: Ciara Gill, Trainee Clinical Psychologist

PARTICIPANT DEBRIEF SHEET

You have now completed this study. We truly appreciate your time and effort. We hope that you have found this an interesting experience. As we mentioned in the Information Sheet, this study aims to explore how young people treat themselves in difficult situations, in particular in social situations.

There were no right or wrong answers to any of the questionnaires. As in many research studies, it is often more helpful to look at responses as a whole group instead of looking at responses individually. Therefore, we will not be providing scores or feedback to you on your questionnaires.

Sometimes filling in questionnaires can make people more aware of their feelings. Some questions asked about how you feel and this can be upsetting, particularly if you have been feeling sad or worried a lot. If you would like to seek support, you could:

- Look at the following *websites* for information about feeling worried, anxious or sad. These sites can give you advice about things you can do or ways of seeking help
 - **Young Minds** –
This website aims to support children and adolescents to improve their emotional wellbeing. It provides useful information for adolescents and parents
 - <http://www.youngminds.org.uk/>
 - **Mood Juice** -
This website provides information for people who may feel anxious about social situations.
 - <http://www.moodjuice.scot.nhs.uk/shynesssocialphobia.asp>
- *Phone* one of the following helplines so that you can discuss your feelings with a qualified and supportive individual
 - **ChildLine**
This is a free, private and confidential 24 hour helpline which will not appear on your phone bill. You can contact ChildLine in relation to anything – no problem is too big or too small.
 - *Helpline:* 0800 11 11 or *Webchat* - www.childline.org.uk/
 - **Samaritans**
This is a free, private and confidential 24 hour helpline for children, adolescents and adults. Phone calls to Samaritans do appear on a phone bill. If you find talking about your feelings difficult you can also email them.
 - *Helpline* - 08457 90 90 90 or *Email:* jo@samaritans.org

- Speak to a parent
- Speak to your Pupil Support Teacher who can arrange a meeting with a school counsellor or you could call the CAMHS Youth Counselling Service direct on **01236 703010**
- Speak to your doctor - if you would like to see someone who can help you with your problems, your GP can arrange this

Thank you again for supporting our study. As a token of thanks, your name will be entered into a lucky draw for one of five £10 Amazon vouchers at the end of the study. Please provide your name, school and class, in the tear off section below if you would like to take part in the lucky draw. The information provided below will be used for the purpose of the lucky draw only and it will **not** be linked with your questionnaires.

Once again, a big Thank You!

Ciara Gill
Trainee Clinical Psychologist

PLEASE RETURN TO RESEARCHER:

On completion of the research project, a prize draw will be completed. Your school will be informed of the winner and will be provided with vouchers. If you **would like** to be entered into the lucky prize draw, please fill in your details here:

| | |
|--------------|--|
| Name: | |
| School Name: | |
| Class Group: | |

If you have enjoyed being part of this research project and would like to hear about future research, please tick this box.

By ticking this box, you will not be committing/ agreeing to take part in any future research.

☐

Appendix R: Adolescent Consent Forms

- *R1 -Consent form over 16*



Participant Identification Number:

Age Range: 16 and over

CONSENT FORM

Study: **The relationship between self-compassion and social anxiety in adolescents**

Main Researcher: Ciara Gill, Trainee Clinical Psychologist

Please place your

Initials in the boxes

1. I confirm that I have **read** and that I **understand** the information sheet for the above study.

☐

2. I have had the opportunity to think about the information, ask questions and have received satisfactory answers to my questions.

☐

3. I understand that my participation is voluntary and that I am free to stop taking part in the study at any time, without giving any reason.

☐

4. I confirm that I am 16 years old or above and that I agree to take part in the above study.

☐

Name of Participant

Date

Signature

Name of Researcher

Date

Signature

taking consent.

Consent form date of issue: [DATE]

Consent form version number: Version 1 Adolescents 16 and over

Page 1 of 1

- R2) -Assent form under 16



Participant Identification Number:

Age Range: 14 and 15 years old

ASSENT FORM

Study: **The relationship between self-compassion and social anxiety in adolescents**

Main Researcher: Ciara Gill, Trainee Clinical Psychologist

Please place your

Initials in the boxes

5. I confirm that I have **read** and that I **understand** the information sheet for the above study.

☐

6. I have had the opportunity to think about the information, ask questions and have received satisfactory answers to my questions.

☐

7. I understand that my participation is voluntary and that I am free to stop taking part in the study at any time, without giving any reason.

☐

8. I agree to take part in the above study.

☐

| | | |
|---------------------|-------|-----------|
| _____ | _____ | _____ |
| Name of Participant | Date | Signature |

| | | |
|--------------------|-------|-----------|
| _____ | _____ | _____ |
| Name of Researcher | Date | Signature |

taking consent.

Consent form date of issue: [DATE]
Consent form version number: Version 1 Adolescents 14+15

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Appendix S: Power Calculations

Additional power and sample size calculations

Primary Research Questions

Investigation of the relationship between self-compassion and social anxiety in an adolescent population has not been previously investigated. A medium effect size will be assumed in this instance, based on the studies reported above.

| | | | |
|----------------------|--------------------|-----------------------|------------------|
| Multiple Regression: | $N \geq 50 + 8(m)$ | Partial Correlations: | $N \geq 104 + m$ |
| | $N \geq 50 + 8(9)$ | | $N \geq 104 + 9$ |
| | $N \geq 50 + 72$ | | $N \geq 113$ |
| | $N \geq 122$ | | |

This calculation has been based on equations provided in Green (1991) for determining minimum sample size for multiple regression and partial correlations. It is stated to determine minimum sample sizes for both tests and select the largest for study design. Additionally G power3* software (Erdfelder et al, 1996) was used based on a power level of 0.8 at a significance level of 0.05 for a medium effect size in multiple regression, suggesting a sample size of 118. The first eight items included in "m" are: age, gender, self-compassion, cognitive avoidance, fear of negative evaluation, self- focused attention, depression, anxiety and self-esteem (later removed). Self-compassion(squared) has been added to predictors to address concerns in relation to linearity.

Secondary Research Questions

A range of additional calculations were undertaken to explore the needed sample size for additional questions

a) To determine if self-compassion is a unique predictor of social anxiety symptomology when controlling for depression and anxiety. Again calculations adopted a power level of 0.8 at a significance level of 0.05. As this question would be addressed by hierarchical regression it was determined that 4 predictors would be entered at stage 1, followed by one predictor resulting in a suggested sample size of 58.

b) The proposed multiple mediation approach (Preacher & Hayes, 2008) employs regression coefficients for bootstrapping, suggesting that the above power sample calculations may also address this hypothesis. In addition Fritz & MacKinnon (2007)'s equations for determining minimum sample size for mediation models was consulted, which proposes a sample size of 71 if adopting a power level of 0.8 and a medium effect size for all paths. A medium effect size has been assumed based on findings of previous literature noted in Section 1 (r ranging from 0.35 to 0.55). Similarly, medium to large effect sizes have been identified between social anxiety disorder and the noted maintaining factors (see for review Clark, 2001; Morrison & Heimberg, 2013).

Appendix T: Comparison statistics of participants with and without missing data

Table T. 1. Comparisons of participants with and without missing data

| Variable | Category | All Participants (n=414) | | |
|--|------------------|---------------------------|-------------------------|--|
| | | NoMissing Data (n=277) | Missing Data (n=137) | Test statistic (NoMissing/ Missing) |
| Gender | Male | 151 | 62 | $\chi^2(1) = 3.167, p < .075$ |
| | Female | 124 | 74 | |
| | Missing Data | 0 | 1 | |
| Age | 14 | 135 | 59 | $t(411) = -1.817, p < .07$ |
| | 15 | 79 | 26 | |
| | 16 | 48 | 47 | |
| | 17 | 15 | 4 | |
| | Missing | 0 | 1 | |
| | Mean (S.D.) | 14.79(9.15) | 14.79(.95) | |
| | | | | |
| Ethnicity | White British | 255 | 131 | **n/a |
| | White Other | 10 | 2 | |
| | Asian British | 4 | 0 | |
| | Asian Other | 1 | 1 | |
| | Black British | 5 | 0 | |
| | Black Other | 0 | 0 | |
| | Other | 0 | 0 | |
| | Missing Data | 2 | 3 | |
| Previous professional support to help with emotions | Yes | 29 | 14 | $\chi^2(1) = .000, p < .995$ |
| | No | 245 | 118 | |
| | Missing Data | 3 | 5 | |
| Self-Compassion ^{*a} | SCS Total Score | 2.93 (.63) | 3.06(.67) | $t(291) = .767, p < .427, CI: [-.25, .45]$ |
| Social Anxiety ^{*b} | SPIN Total Score | 22.2 (13.9) | 22.5(14.6) | $t(392) = .202, p < .84, CI: [-3.07, 3.7]$ |

^abased on 2000 bootstraps, BCa Confidence Intervals.

^{*}t-tests vary due to missing data ^a277/ 16 responses, ^b 277/177 responses.

^{**}n/a - calculations not viable due to a number of cells with n<5.

Appendix U: *Missing Data Protocol*

Table U.1. Missing Data Protocol

| Scale Name | Missing Data Management | % Missing Data (in this study) |
|--|---|-----------------------------------|
| SCS: Self-Compassion Scale (Neff, 2003) | If 10% or less of the data is missing (3 items) impute the mean of items of the same subscale into missing items | 29.2% |
| SPIN: The Social Phobia Inventory (Connor et al, 2000) | If less than 25% of items are missing, calculate the mean of the completed items and use instead of missing item (Davidson, pers comm). To maintain consistency across measures, 10% rule applied in this study i.e. if 2 items or less missing, individual mean substitution chosen. | 4.8% |
| FNE subscale (only) of the Social Anxiety Scale for Adolescents (SAS-A) (La Greca, 1998) | If 10% or less of the data is missing (1 item) impute the mean of answered items of the subscale into missing item. | 2.2% |
| The private and public self-consciousness scales of Self-Consciousness Scale (Fenigstein, Scheier & Buss, 1975). | If 10% or less of the data is missing (1 item from each subscale) impute the mean of items of the same subscale into missing items. | 9.2% |
| CAQ: Cognitive Avoidance Questionnaire (Gosselin et al, 2002; Sexton & Dugas, 2008) | If 10% or less of the data is missing (3 items) impute the mean of all complete responses to other questions. | 30.4% |
| General Anxiety Subscale of the Screen for Child Anxiety Related Emotional Disorders – Child Version (Birmaher et al, 1995). | If 10% or less of the data is missing (1 item) impute the mean of items of the subscale into missing items. | 4.1% |
| Short Mood and Feeling Questionnaire (Angold, Costello & Messer, 1995) | If only a small number (four or less) of SMFQ items are missing, missing items are conventionally replaced with the mean of the remaining items (Angold et al, 1995; McKenzie et al, 2011). In this study, 10% rule applied i.e. 1 item missing only | 3.6% |

Appendix V: Additional analyses with consideration of gender

Table V.1. Independent t-tests exploring variance across gender

| | Male (n=158) | | Female (n=134) | | t | df | p | 95% C.I. | |
|--|-----------------|-------|-------------------|-------|--------------------|---------------------|--------|----------|--------|
| | Mean | SD | Mean | SD | | | | Lower | Upper |
| <i>Self-Compassion</i> | 3.11 | .56 | 2.77 | .68 | 4.593 ^a | 259.2 ^a | p<.001 | 0.19 | 0.48 |
| <i>Self-Kindness^b</i> | 2.55 | .87 | 2.41 | .82 | 1.477 | 311 ^b | p=.141 | -0.047 | 0.327 |
| <i>Self-Judgement^b</i> | 2.59 | 1 | 3.26 | .94 | -6.036 | 311 ^b | p<.001 | -0.88 | -0.46 |
| <i>Common Humanity^b</i> | 2.69 | .9 | 2.83 | .87 | -1.379 | 311 ^b | p=.169 | -0.33 | 0.06 |
| <i>Isolation^b</i> | 2.62 | .98 | 3.12 | 1 | -4.465 | 311 ^b | p<.001 | -0.72 | -0.29 |
| <i>Mindfulness^b</i> | 2.95 | .84 | 2.83 | .76 | 1.350 | 311 ^b | p=.178 | -.052 | 0.304 |
| <i>Over Identification^b</i> | 2.54 | .97 | 3.08 | .97 | -4.904 | 311 ^b | p<.001 | -0.56 | -0.325 |
| <i>Social Anxiety</i> | 18 | 12.88 | 26.73 | 13.49 | -5.715 | 290 | p<.001 | -11.88 | -5.79 |
| <i>Fear of Negative Evaluation</i> | 17.1 | 7.8 | 25 | 8.3 | -8.387 | 290 | p<.001 | -9.77 | -6.06 |
| <i>Cognitive Avoidance</i> | 51.95 | 20.05 | 64.44 | 21.46 | -5.411 | 290 | p<.001 | -17.92 | -8.36 |
| <i>Private Self Consciousness</i> | 18.19 | 6.41 | 20.69 | 7.06 | -3.167 | 290 | p<.001 | -4.05 | -0.95 |
| <i>Public Self Consciousness</i> | 12.14 | 7.03 | 17.93 | 6.55 | -7.236 | 290 | p<.001 | -7.36 | -4.21 |
| <i>Depression</i> | 5.08 | 50.91 | 8.47 | 7.13 | -4.43 ^a | 258.89 ^a | p<.001 | -4.96 | -1.91 |
| <i>Generalised Anxiety</i> | 6.15 | 4.85 | 10.63 | 5.2 | -7.537 | 290 | p<.001 | -5.6 | -3.28 |

95% bias corrected and accelerated confidence intervals, based on 2000 bootstrap samples

^aLevene test significant ^b Results based on larger sample size: Males=170, Female=143

Table V.2. Additional Correlation Analyses with consideration of gender

| Relationship of Interest | All | Males | Females |
|---|----------------------|----------------------|----------------------|
| Total Self-Compassion/ Total Social Anxiety | -.551** ^a | -.461** ^c | -.561** ^e |
| Total Self-Compassion/ Fear of Negative Evaluation | -.635** ^b | -.521** ^d | -.627** ^f |
| Total Self-Compassion/ Cognitive Avoidance | -.448** ^b | -.38** ^d | -.412** ^f |
| Total Self-Compassion/ Private Self Consciousness | -.425** ^b | -2.84** ^d | -.511** ^f |
| Total Self-Compassion/ Public Self Consciousness | -.503** ^b | -3.68** ^d | -.55** ^f |
| Total Social Anxiety/ Self Kindness | -.262** ^b | -.202** ^d | -.308** ^f |
| Total Social Anxiety/ Self Judgment | .559** ^b | .458** ^d | .539** ^f |
| Total Social Anxiety/ Common Humanity | -.114* ^b | -.07 ^d | -.249** ^f |
| Total Social Anxiety/ Isolation | .482** ^b | .352** ^d | .539** ^f |
| Total Social Anxiety/ Mindfulness | -.233** ^b | .104 ^d | -.364** ^f |
| Total Social Anxiety Over-Identified | .515** ^b | .429** ^d | .510** ^f |

95% bias corrected and accelerated confidence intervals, based on 2000 bootstrap samples

^aSample Size=316, ^bSample Size=298, ^cSample size = 170, ^dSample size=159, ^eSample size=143, ^fSample Size=136

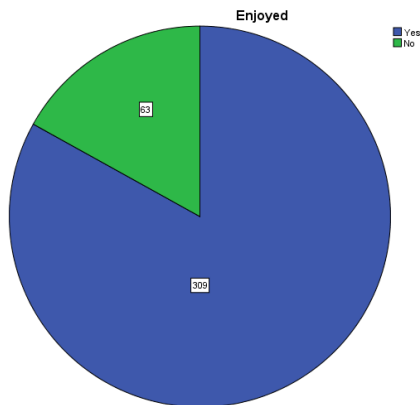
** correlation is significant at the 0.01 level (2-tailed), * correlation is significant 0.05 level (2-tailed)

Appendix W: Participant Feedback (with responses)

In total 373 / 414 participants completed the optional feedback form indicating a response rate of 90%. Outlined below are responses to the feedback questions:

1) Did you enjoy taking part in this research project?

YES/ NO

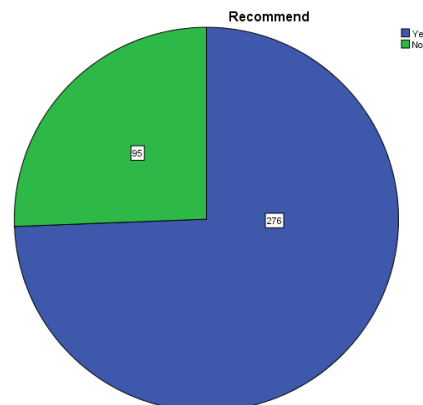


83.1% of participants reported that they had enjoyed completing the research project; while as 16.9% reported they had not.

2) Would you recommend your friends to take part in this study?

YES/NO

74.4% of participants advised they would recommend the study to a friend while as 25.6% advised they would not.



3) What did you like best about the research?

The most common responses by participants were:

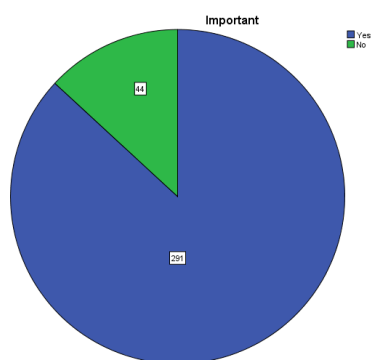
- 21.4% advised that the study had made them think about themselves and to consider the way in which they think
- 6.2% found the study relevant to their lives
- 4.8% advised that they enjoyed helping others/ advancing science
- 3.5% advised that the study had made them aware that other people had similar thoughts/concerns and that they were not alone
- 2.9% reported that the project had been easy
- 2.4% advised they had enjoyed getting out of class

4) What did you like least about the research?

The most common responses by participants were:

- 18% found that questions were similar and repetitive
- 13.4% reported the study was too long
- 12.9% reported some of the questions had been hard to comprehend.
- 2.7% found the study boring
- 2.4% advised the project had made them think about difficult circumstances/ times

5) Do you think it is important for adolescents to be involved in research? YES/NO



86.9% of adolescents advised they felt it was important for adolescents to be involved in research, while as 13.1% disagreed.

6) If you have any other comments or suggestions, please tell us here:

Few adolescents provided additional feedback. Below is a summary of responses received:

- 22 participants hoped research projects would lead to a better understanding of teenagers.
- 6 participants hoped research projects would raise awareness of mental health in adolescents
- 4 participants suggested that placing people in real life examples would help researchers learn more
- Additional suggestions were that; families should be involved, the project should be more colourful, the project should use computers and interviews.